This document includes some recent decisions of the EPO in 2018 with regards to software related inventions and shows relevant extracts from the respective decisions.

T 0136/13 (Location-based advertising / LOCATOR IP) of 11.9.2018

European Case Law Identifier: ECLI:EP:BA:2018:T013613.20180911

INTERACTIVE ADVISORY SYSTEM

Inventive step - location-based advertising (no
Inventive step - obvious implementation of non-technical idea)

Application number: 08770994.5
IPC class: G06F 15/16
Applicant name: Locator IP, LP

Board: 3.5.01

Cited decisions: T 0641/00, T 1463/11
Citing decisions: T 0817/16

https://www.epo.org/law-practice/case-law-appeals/pdf/t130136eu1.pdf

The invention

A customer (user) walks into a store. He is monitored. Depending on the user's location within the store, and the amount of time that he spends in proximity to certain products, the user receives advertisements to his mobile phone. For example, a user looking at shoes in the sports section of a department store might receive an advertisement about running shoes.

The invention in claim 1 involves the use of one or more position sensors, located in the store, for monitoring the user's real-time location within the store.

There is also a server that maintains a database comprising product locations, and a database comprising a user profile that includes the user's past or present location/s. The server generates and outputs advertising information based on the user's current location and on the user profile.

The server is connected to a plurality of stores, each having its own monitoring system. Thus, the user can walk from store to store and continue to receive advertisements that are relevant to his shopping.

Claim 1 reads:

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A method implemented on a computer for providing targeted marketing and advertising information to a user located remotely from a vendor (102) or service provider (90), the method comprising:

receiving, by a server (12) from a plurality of retail stores, information indicative of the locations of products (102) within the plurality of retail stores;

maintaining a database of information (16) indicating locations of products (102) within the plurality of retail stores;

maintaining, by a server (12), a user profile in a user profile database (100), the user profile including a user identifier code identifying a communicator device (11) associated with a particular user;

receiving, by the server (12) from one or more position sensors located in or in close proximity to one of the plurality of retail stores, real-time spatial locations of the communicator device (11) within one of the plurality of retail stores;

correlating, by the server (12), the real-time spatial locations of the communicator device (11) within the retail store with the location of one or more products (102) within the retail store;

updating the user profile, by the server (12), with information regarding likes/dislikes of the user based on the spatial proximity of the communicator device (11) relative to the one or more products (102) as well as the time spent in proximity to the one or more products (102) within the retail store;

generating targeted marketing or advertising information, by the server (12), based on the real-time spatial location of the communicator device (11) and the updated user profile; and

outputting the targeting marketing or advertising information, by the server (12), to a communication network (20) for transmittal to the communicator device (11).

Inventive step

3.1 It is common ground that D1 discloses a system for transmitting individualised information, for example weather information, to a user's communication device, based on the real-time spatial location of the communication device and information in a user profile. The system in D1 has means for determining the user's real-time location and various databases for storing the locations, the user profile, and the weather information. There is also an analysis unit that selects the information to be provided to the user based on the user profile and the user's real-time location.

3.2 The appellant argued the benefits of having just one communication device for a plurality of services (stores). However, that is already in D1. The weather analysis unit in D1 receives weather information from a plurality of resources, for example government weather information resources, and privately operated weather resources (paragraph [0027]). There is no need to have separate devices for different weather services.

3.3 In the Board's view, <u>the subject-matter of claim 1 differs from D1 by the type of information that is being stored and processed by the server</u>. In claim 1, the **outputted information is targeted marketing or advertising information that is selected based on the user's location within a store, and the time that the user spends, or has spent, in proximity to certain products in the store**.

A further difference is that the **user's location is measured by position sensors located in the stores**.

3.6 Turning back to claim 1, the Board considers that the idea of providing targeted advertising based on the user's real-time location within a store, and the time that the user spends in proximity to certain products, can be formulated by the business person. This sort of concept **does not rely on any technical knowledge or skill**. Therefore, it is **part of the business requirements** that the technical implementation has to meet.

3.7 The appellant's arguments in favour of technical character concern the implementation of the location-based advertising on a computer communication system. The Board agrees that **this is technical and must be evaluated for inventive step**. However, in the Board's view, the **implementation would have been obvious to the skilled person** on the basis of D1. Indeed, D1 has all the technical infrastructure for providing location-based information to a mobile device, including databases that are suitable for storing the relevant information. Furthermore the processing of the information by the server merely follows from the business requirements, and hardware suitable for this purpose is already available in D1. The hardware needs to be adapted to perform the business requirements, but that is just a matter of normal programming.

3.8 The business requirements dictate that the user's position within the store be determined. The Board considers that it would have been obvious to use position sensors, placed at suitable locations within the store, to that end. Such position sensors were well known (see paragraph [0125] of the published application), and using known technology for its intended purpose does not involve an inventive step.

3.9 For these reasons, the Board judges that the subject matter of claim 1 does not involve an inventive step (Article 56 EPC).

T 0554/14 (Presentation of scrolling icons/BLACKBERRY) of 10.10.2018

European Case Law Identifier: ECLI:EP:BA:2018:T055414.20181010

Method and apparatus pertaining to the presentation of scrolling icons

Inventive step - main request and first auxiliary request (no)

Peter Bittner – European Patent Attorney

Application number: 11196148.8
IPC class: G06F 3/048, H04M 1/725
Applicant name: BlackBerry Limited

Board: 3.5.05

Cited decisions: T 2501/10, T 0391/11, T 0713/11, T 0162/12, T 1836/12

https://www.epo.org/law-practice/case-law-appeals/pdf/t140554eu1.pdf

Invention

1. The invention concerns the display of icons while scrolling on a display of a portable electronic device (paragraph [0013] and claim 1 of the application as filed and as published).

1.1 The method of displaying icons according to the invention relies on a prioritisation metric to select some icons of the plurality of icons (see paragraph [0021]). While scrolling the display of the plurality of icons in response to user input, the selected icons are automatically presented in a highlighted form while the non-selected icons are presented in a non-highlighted form (paragraph [0028]).

1.2 A prioritisation metric may represent usage of an application associated with the icon, e.g. frequency of use, run time or time elapsed since it was last launched (original claims 3 and 4, paragraphs [0023] to [0026]). The metrics can be pre-defined (for example, by the manufacturer of the control circuit) and/or can be defined (at least in part) by the user as desired (paragraphs [0028] and [0029]).

1.3 After scrolling is halted, the method of the invention displays all presently-displayed icons in a default or ordinary form independently of whether while scrolling some were highlighted and some were not (paragraphs [0031], [0037] and original claim 7).

1.4 The non-highlighted form can comprise an abridged form where something has been redacted from the ordinary presentation form, for instance by using reduced colour, resolution, clarity or size, by altering depth or relative-orientation, or by modifying transparency (e.g. increased transparency). When using abridgement for the non-highlighted form, the highlighted form can comprise the default presentation form if desired (paragraphs [0033] and [0034]).

1.5 According to the description, the teaching of the invention displays prioritised icons in an eye-catching way when the user scrolls a display of a plurality of icons, which in turn makes it possible for the user to readily and easily identify those relatively important icons during scrolling (paragraph [0013]). Additionally, the description explains that "as the non-highlighted icons can require less information to be displayed, the processing resources needed to render the non-highlighted icon can be less than the resources needed to render the highlighted icons" (paragraph [0036]).

… the board concludes that the method of document D1 comprises the steps of applying at least one prioritisation metric to select icons for highlighting, scrolling a display of a plurality

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of icons and, while scrolling, displaying the selected icons in highlighted form and the non-selected icons in a non-highlighted form as defined in claim 1.

In the method of document D1, the non-highlighted items are displayed in a different colour, e.g. grey, than the highlighted items (paragraph [0023]). Document D1 does not explicitly mention a default presentation form, but refers to the appearance of items and teaches that those items which are non-highlighted have a different appearance. The highlighted form can thus be seen as a default presentation form. Document D1 therefore also discloses the feature of the claim "wherein the non-highlighted form of the non-selected icons is an abridged form of the default form". A step of detecting halting scrolling is implicitly disclosed in document D1 (paragraph [0016]).

2.3 The <u>subject-matter of claim 1 thus differs</u> from the method of document D1 in that:

- within a predetermined time of detecting halting scrolling the display of the plurality of icons, all presently-displayed icons of the plurality of icons are displayed in a default form.

In other words, the claimed method differs from that of document D1 in that the non-highlighted/abridged form is only used during scrolling.

2.4 In the grounds of appeal, the appellant argued that the focus of the present invention was minimising resource consumption. <u>As was described in paragraph [0036], the selection of icons and presentation of a selection of icons in highlighted and/or non-highlighted form in scrolling mode affected the overall resources required and facilitated quicker and smoother presentation</u>. The claimed solution provided a scrolling mode of operation in which non-highlighted icons were displayed in an abridged form having a lower information content than a default form for the same icon. **That approach required less processing power to render the image of the icon on the display during scrolling**. The novel feature did not relate purely to presentation of information and was technical. The claimed method provided a more efficient man-machine interface since it allowed users to more efficiently obtain a display comprising a desired icon selectable from a scrollable list, and **solved the technical problem of reducing processing requirements required to display scrolled icons by an electronic device**.

The board does not find those arguments persuasive. According to the appellant, the alleged technical effects are achieved by the display of the non-highlighted icons in abridged form, e.g. in greyscale form, during scrolling. However, **the application does not convincingly disclose that the abridged display forms contribute to reduced power consumption or how that effect might be achieved**. Paragraph [0036] first mentions that highlighted items "are considerably easier to identify as the icons 201 move on the [...] display" and then vaguely states that "the non-highlighted icons can require less information ..." and that "the processing resources needed to render the non-highlighted icon can be less" than those needed for a highlighted icon (underlining added). **The description does not explain in technical terms how such a reduction of resources is achieved for the abridged forms mentioned in the application.** The board agrees with the Examining Division's assessment (see decision under appeal, page 9, last paragraph) that at least some of those abridged forms cannot contribute to a reduction of resources.

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…

Thus, the **board does not recognise the objective technical problem as formulated by the appellant.**

2.5 The distinguishing feature is described in paragraph [0037], and the default or ordinary presentation form on which it is based is further described in paragraphs [0031] to [0034] and [0038] of the application. None of those passages mentions the purpose of the default presentation form. It **could reflect visual user preferences, which is a non-technical aim**. In any case, the board cannot identify a technical purpose of presenting the icons in default form after the end of scrolling and finds that in the context of the present invention that feature relates to presentation of information as such (see also Case Law of the Boards of Appeal, 8th edition, 2016, I.A.2.6 and I.D.9.1.6).

The **distinguishing feature therefore merely reflects the non-technical requirement that icons be presented in default form after the end of scrolling**. Such a feature does not contribute to inventive step.

T 2707/16 (Dynamically generating multiple hierarchies/MICROSOFT TECHNOLOGY … of 11.12.2018

European Case Law Identifier: ECLI:EP:BA:2018:T270716.20181211

Dynamically generating multiple hierarchies of inter-object relationships based on object attribute values

inventive step (not obvious over notorious knowledge)

Application number: 01128655.6
IPC class: G06F 17/30
Applicant name: Microsoft Technology Licensing, LLC

Board: 3.5.07

Cited decisions: G 0001/89, G 0005/93, G 0007/93, G 0002/97, G 0002/04, G 0001/05, G 0002/08, J 0006/10, J 0013/12, R 0019/12, T 0084/82, T 0390/86, T 0243/87, T 0300/89, T 0225/96, T 0720/02, T 0797/02, T 0900/02, T 0315/03, T 0358/10, T 0823/11, T 1131/12, T 1824/15, T 1033/16

https://www.epo.org/law-practice/case-law-appeals/pdf/t162707eu1.pdf

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The invention

2. The application relates to the storage and management of hierarchical data relationships. As an example, a resource could be the root node of a hierarchy, and all individuals having access to this resource could be the leaves of a hierarchical relationship tree (paragraph [0004] of the application as published).

3. The application explains in its background section that considerable efforts are required on the part of an administrator to configure a conventional data store storing objects which have inter-object relationships. Such a conventional data store could be a directory based on the X.500 standard and the Lightweight Directory Access Protocol (paragraphs [0005] to [0007] and [0016]). Moreover, an inter-object relationship could be "elastic". Over time such relationships could be dynamic (paragraph [0009]).

4. The application proposes the dynamic generation of multiple hierarchies (referred to as "polyarchy" in the application) of inter-object relationships of objects retrieved from a data store based on the values of attributes of those objects (paragraphs [0018] and [0025]).

5. This value-based approach to defining relationships allows for a flexible definition of relationships independent of object naming and predetermined static hierarchical data structures. According to the claimed invention, three different kinds of attributes are identified (distinguishing, locating and classifying attributes; paragraphs [0040] to [0044]). The identified attributes allow for the definition of an elements-of-interest schema (see pages 13 to 19: Table 7) which can enable a client in a distributed computing environment to query the objects in the polyarchy by means of a structured descriptive query language (paragraphs [0073] to [0088]; Figures 6 to 12).

Sole request

6. Claim 1 of the sole request relates to a "method implemented on a data polyarchy server of a distributed computing environment". The method comprises the following features itemised by the Board (without reference signs):

a) receiving data from a data store, the data corresponding to a plurality of objects;

b) responsive to receiving the data, dynamically generating multiple hierarchies of inter-object relationships based on values of attributes of the objects, the multiple hierarchies of inter-object relationships being a data polyarchy,

c) each object further comprises one or more respective attributes,

d) generating the data polyarchy further comprises:

d1) as objects are loaded into the data polyarchy, examining, by the data polyarchy server, values of the one or more respective attributes of each object based on one or more thresholds, the one or more thresholds being defined to determine a relative distribution of attribute

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values in the data polyarchy with respect to other attribute values of other objects in the data polyarchy, to:

d2) identify a plurality of distinguishing attributes, each distinguishing attribute having a value which is substantially unique with respect to a distribution of attribute values across the objects,

d3) identify one or more locating attributes for narrowing a search for an object of the objects, each locating attribute having a relatively large distribution of attribute values across the objects, and

d4) identify one or more classifying attributes for filtering out objects from a search for an object, each classifying attribute having a relatively small distribution of attribute values across the objects;

e) responsive to generating and managing the data polyarchy, generating and updating, by a management module, an elements-of-interest schema, the elements-of-interest schema indicating how a client computer can manipulate and display objects in the data polyarchy with respect to their respective hierarchies of inter-object relationships;

f) communicating, by the data polyarchy server, the elements-of-interest schema to one or more client computers for displaying the inter-object relationships in the data polyarchy as described by the elements-of-interest schema on one or more graphical user interfaces, each supported by a respective client computer;

g) replicating the data polyarchy and the elements-of-interest schema one or more times in a memory cache by the data polyarchy server;

h) maintaining, by the data polyarchy server, an authoritative store in the memory cache to represent a most recent representation of the inter-object relationships;

i) receiving, from a client computer of the one or more client computers, a request for information from the data polyarchy, indicating a level of data reliability/timeliness required by the client computer; and

j) if a high timeliness is required by the client computer, accessing, by the data polyarchy server, the data polyarchy from the authoritative store.

…
12. Claim 1 of then auxiliary request 5 decided upon by the Examining Division already contained features essentially corresponding to features g) and h) of claim 1. In the contested decision (point 22.2), the Examining Division argued as follows:

"While caches have technical character, the replicated data polyarchies, more or less recent, do not. Moreover, the replicated data polyarchies are not used later on for any technical purpose. The state of being "authoritative" or "more reliable" of data [...] defines a non-technical characteristic of the data which is subjective and depends on the requirements of a user in which information he is interested in. From a technical point of view it is irrelevant

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whether the user is provided with more timely data or with more out-of-date data. Thus, apart from the memory cache itself nothing else [...] contributes to the technical character of the invention."

As caching was notoriously known, the Examining Division concluded that there was a lack of inventive step.

13. The Board observes that the **appellant has added features i) and j) to specify the technical use of the cached data polyarchy replicas for query processing**. Replicas of the data polyarchy are used to meet client demands in terms of performance. A skilled person understands from the description, paragraphs [0031] and [0032], that the server uses copies with outdated and fresh data to answer requests from clients with different demands for data freshness. In the context of the present invention, the use of different replicas allows query performance to be improved for many clients on the basis that not all clients/applications need the most recent data.

The Board considers that the **use of caching for dynamically generated data (i.e. the data polyarchy) with an authoritative store is a technical concept** that serves as a compromise between higher scalability and fast response times for query processing on the one hand and freshness of the data on the other hand and that this **goes beyond the notoriously known use of caching** in general. Consequently, the Board considers that **the claimed implementation achieves the technical effect of higher scalability of query processing on a server by means of a particular application of caching which reflects further technical considerations**. Hence, the Examining Division's assessment of technical character is no longer convincing with respect to the present request, as the use of the replicated data for a technical purpose (scalable query processing) has now been explicitly added to claim 1.

As the Examining Division has already correctly observed, the use of a memory cache allows faster access to data and thus contributes to the technical character. The further features mentioned in features g) to j) contribute to this effect, as they implement a specific manner of using caching for scalable query processing. **Hence, these features need to be considered when assessing inventive step**.

Features i) and j) were not present in the originally filed independent claims and therefore may not have been searched. As the fact that caching per se was notoriously known is not a suitable starting point for such an assessment, as there are no relevant documents on file (documents D1 and D2 not being concerned with the processing of structured queries on multiple cached copies) and as the appellant has contested the existence of further, undocumented common general knowledge, an additional search is required.

T 1384/15 (Class-action prediction/SWISS RE) of 17.9.2018

European Case Law Identifier: ECLI:EP:BA:2018:T138415.20180917

System and method for aggregation and monitoring of multimedia data stored in a decentralized way

Inventive step - both requests (no)

Application number: 08154400.9
IPC class: G06F 17/30
Applicant name: Swiss Reinsurance Company Ltd.

Board: 3.5.07

Cited decisions: G 0003/08, T 1358/09, T 2467/09

https://www.epo.org/law-practice/case-law-appeals/pdf/t151384eu1.pdf

2. The application

2.1 The application relates to a system and method for aggregating and monitoring "multimedia data stored in a decentralised way triggering upcoming class actions". The "Technical Object" section, in paragraph [0009] of the A1 publication, explains that the system and method proposed in the application are meant to assist companies with risk management and due diligence related to legal actions.

2.2 The system's architecture is illustrated in Figure 1 and described in paragraphs [0019] to [0022].Figure 1 shows a computing unit 10 connected via a network 50 to network nodes 40 to 44, which can include web servers, chat servers, email servers, news servers, e-journal servers, group servers and other file servers. The network nodes are connected to source databases 401, 411, 421, 431 and 441. The source databases contain multimedia data.

The computing unit 10 is coupled to memories 31 and 32. Memory 31 contains "linkable search key words" 310 to 315. Memory 32 contains "rating parameters" 320 to 325. Each rating parameter is assigned to a search keyword or a combination of search keywords.

The rating parameters "include the evaluation topic, e.g. a selected risk for a certain company, class action, legal action, court case, etc. with corresponding evaluation attributes" (paragraph [0021]).

The rating parameters can also contain "limitations with respect to the network 50 and/or specific network nodes 40-43" (paragraph [0022]).
…
4. Clarity

4.1 Claim 1 of annex A is directed to a method "for triggering upcoming class actions and/or legal actions", but it does not contain any features relating to the triggering of such actions. At

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the oral proceedings, the appellant explained that the invention was about measuring the probability that a class action or other type of legal action would occur, which is in line with the Board's understanding of the application. The Board concludes that the expression "for triggering upcoming class actions and/or legal actions" is at odds with the application as a whole and renders the claim unclear within the meaning of Article 84 EPC.

4.2 According to claim 1 of annex A, the computing unit 10 accesses the source databases, scans their content "according to" a search keyword or a combination of search keywords and, for each rating parameter, generates a "scorecard" for data sets found in the source databases.

Claim 1 further specifies that the generation of the scorecard (here the claim states "scoreboard", but at the oral proceedings the appellant confirmed that "scorecard" was meant) is performed "with respect to a time-based rating based on the temporal correlation of when and which content was entered to the respective source databases and an exposure-based frequency rating, wherein the exposure-based frequency is generated as a function of detected one or more exposure variables comprised by the evaluation topic with corresponding evaluation attributes".

In the Board's view, this formulation does not allow the reader of the claim to establish with any certainty what a "scorecard" is and how and from what kind of data it is generated. To start with, no other part of the claim refers to "exposure variables", let alone explains what is specifically meant by them. This means that it also cannot be understood in what sense the "exposure-based frequency" or "exposure-based frequency rating" is generated "as a function" of exposure variables. Although "when and which content was entered to the respective source databases" can be understood as referring to the points in time at which the data sets found had been entered in their respective source databases, the claim leaves undefined how a "time-based rating" is "based" on the temporal correlation between these points in time and the "exposure-based frequency rating" (which apparently is also a function of time), how scorecard generation is performed "with respect to" such a rating and, finally, what specific type of information is produced that makes up the "scorecard".

…

5. Inventive step

5.1 Although claim 1 of both annex A and annex B is unclear, the appellant's explanations given at the oral proceedings, which accord with the Board's initial understanding as expressed in its communication, allow the Board to assess inventive step.

5.2 From a technical point of view, the computing unit of claim 1 of annex A retrieves, for a number of "rating parameters", multimedia data from a number of source databases to which it is connected via a network. For each rating parameter, this retrieval of data is based on search keywords associated with the rating parameter and is limited to the source databases assigned to the search keywords.

The retrieved data (the "found data sets") is then processed on the basis of various parameters and principles, inter alia with the help of scorecards, resulting in the generation of a "trigger

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signal" (the claim mentions a further concept, namely that of "variable frequency values", linking the generation of the trigger signal to the generated scorecards).

The "trigger signal" is transmitted "for activation" to an "automated receiving work unit". According to paragraph [0011] of the description, this may refer to signalling a financial computing system to activate or block certain financial transactions.

5.3 Precisely how the retrieved data is to be processed with the help of scorecards in order to achieve the generation of a "trigger signal" with the desired properties is not clearly defined in the claim (see in particular point 4.2 above), and the Board has some doubt that the application as filed discloses this in a sufficiently clear and complete manner. But for the purpose of assessing inventive step in the present case, the following conceptual understanding of the invention suffices.

As the appellant explained at the oral proceedings, the goal of the invention is to estimate the probability that, in a particular context, certain legal actions such as class actions will be instigated. The main idea behind the invention is that upcoming legal actions can be predicted by analysing the content of certain information sources, such as web-sites, internet chat rooms and email forums (see paragraph [0023]). If the frequency of critical postings about a particular topic, for example postings mentioning side effects of a drug, has recently risen, the probability that a legal action will be brought will have increased.

Hence, the various claim features relating to the processing of the retrieved data are intended to specify procedural steps for analysing information extracted from relevant data sources to come to an estimation of the likelihood of an upcoming legal action and for deciding whether (financial) action needs to be taken.

5.4 Computing units, computer networks and network nodes connected to source databases (database servers) were notorious at the priority date of the present application, i.e. their existence in April 2007 cannot be reasonably disputed (cf. decision T 2467/09, reasons 8). It was also notorious to search databases on the basis of keywords or combinations of keywords. The appellant indeed did not dispute this.

5.5 In the Board's view, the **data processing scheme of claim 1 of annex A, as explained in point 5.3 above, is based only on non-technical considerations about how to make predictions about upcoming class actions or legal actions on the basis of cognitive data such as internet postings**. This non-technical data processing scheme specifies, in particular, rating parameters together with relevant types of multimedia data and keywords, and the transaction which is to be activated or blocked.

The Board judges that the skilled person, starting from a notorious computer network connecting database servers and client computing units and faced with the problem of implementing the non-technical data processing scheme, would arrive at the claimed subject-matter without the exercise of inventive skill. In particular, he would, for each rating parameter, store relevant search keywords and links or network addresses of relevant database servers in a memory of a computing unit and implement a suitable "filter" software module to retrieve the required data from the databases. He would also transmit a specification of a transaction to be activated or blocked to the appropriate financial system as a "trigger signal".

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5.6 At the oral proceedings, the <u>appellant did not contest that the subject-matter of claim 1 of annex A lacked inventive step if the data processing scheme were found to be non-technical.</u> But it **argued that the scheme did in fact provide a technical contribution. Although the prediction of an upcoming legal action was admittedly not a technical result, automation of the process of making such predictions was**. Conventionally, the probability that a legal action would be brought was estimated by a lawyer, who analysed the situation in view of legal principles and his experience. The invention did not suggest programming a computer to function in the same way as a lawyer, which would be difficult if not impossible. Instead, it proposed a very <u>different scheme which was amenable to implementation on a computer</u>. The <u>person developing this scheme</u> was neither a legal expert nor a computer specialist but a <u>technical expert in between the legal expert and the computer specialist</u>. All the features of the scheme contributed to the solution of a <u>technical problem, namely the automation of predicting upcoming legal actions</u>, and thus made a technical contribution.

5.7 The **Board cannot accept this argument**. Although it is true that automating a particular activity by suitably programming a computer is technical because it involves the use of technical computer means, it does not follow that all the steps involved in automating the activity are technical.

In the present case, the automation is based on the idea that the probability of a legal action can be derived from what people write on web-sites and in internet chat rooms and email forums. The Board agrees with the appellant that this idea is neither a pure business idea nor a purely legal idea, but what matters is that it does not reflect any technical principles. In particular, the mere fact that the idea lends itself to being implemented on a computer (in so far as it can be sufficiently understood despite the lack of clarity) does not mean that it is technical (see opinion G 3/08, OJ EPO 2011, 10, reasons 13.5 and 13.5.1, and decision T 1358/09 of 21 November 2014, reasons 5.5).

5.8 The Board is also not convinced by the analogy that the appellant attempted to draw in its statement of grounds of appeal with, for example, an earthquake prediction system. The present invention does not involve making a prediction about physical processes on the basis of measured physical quantities and a model based on technical considerations about such processes; instead, it involves the retrieval of cognitive information and a scheme for processing that information not based on technical considerations.

5.9 The appellant also argued that determining which source databases were more relevant for certain rating parameters was a technical issue, as it was based on the structure and functionality of those databases. In the Board's understanding, however, whether the data contained in a particular source database is relevant for a certain rating parameter (e.g. the probability that a class action will be brought) depends on the cognitive meaning of the data stored in the database. In any event, the claim does not reflect any considerations about the structure and functionality of different source databases.

5.10 In view of the above, the Board reaches the conclusion that the subject-matter of claim 1 of annex A lacks inventive step (Article 56 EPC).

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5.11 Claim 1 of annex B adds to claim 1 of annex A a step of dynamically generating rating parameters by means of a "parameterization" software module. Since the dynamic generation of rating parameters (dynamic in the sense that new rating parameters are somehow produced in the process of generating the scorecard for another rating parameter) is part of the non-technical data processing scheme, and since it is obvious to implement this non-technical step (again, to the extent that the application sufficiently discloses it) by means of a suitable software module, the subject-matter of claim 1 of annex B too lacks inventive step (Article 56 EPC).

T 1325/17 (Location-based dating/LOCATOR) of 13.11.2018
European Case Law Identifier: ECLI:EP:BA:2018:T132517.20181113
INTERACTIVE ADVISORY SYSTEM

Inventive step - all requests (no)

Application number: 07718070.1
IPC class: G06F 15/16, G06Q 10/00, G06Q 30/00
Applicant name: Locator IP, LP

Board: 3.5.06

https://www.epo.org/law-practice/case-law-appeals/pdf/t171325eu1.pdf

Claim 1 of the main request reads as follows

"A method for locating at least one locatee located remotely from a broadcast network, comprising the steps of:

receiving user-profile criteria from a communicator device associated with a locator;

receiving user-profile criteria from a communicator device associated with a locatee;

updating, automatically and continuously, a communicator location database with real-time spatial locations of the communicator devices;

matching the user-profile criteria associated with the locator with user-profile criteria associated with the locatee as well as real-time locations of the communicator devices associated with the locator and the locatee to generate a data set of locatees having similar user-profile criteria and being within a pre-determined spatial range with respect to the communicator device associated with the locator; and

transmitting the data set of locatees to the communicator device associated with the locator based upon the matching of the user-profile criteria associated with the locator with the user-profile criteria associated with the locatee."

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The invention

1. The application concerns two location-based services relating to location-based dating and people tracking, respectively.

2. In the dating application, users provide "profiles" comprising information about themselves and about the people of interest to them (personal characteristics or traits). In other words, users describe themselves and the person they are looking for (see paragraph 80; and figure 5, nos. 80c, 84c, 86c). The description uses the term "locatee" for "a person to be located" and "locator" for "a person trying to locate a locatee" (see paragraph 78).

2.1 Each user has an associated "communicator device", typically a mobile phone (loc. cit.; and figure 5, nos. 11c and 11d). These are tracked, and their current locations are held in a "communicator location database" (see paragraph 78; figure 5, no. 16c).

2.2 An "analysis unit" compares user-profiles against each other. More specifically, it compares a locator's search criteria against the locatees' self-descriptions (see e.g. paragraphs 81 and 84). The search may be limited to locatees within a "designated spatial range" around the locator's location (see paragraph 85).

2.3 When a match is found, information about the locator may be sent to the matching locatee. Conversely, fur-ther information about the locatee may be transmitted to the locator, possibly subject to the locatee's prior permission. The locator can then decide whether or not to contact the locatee(s). Alternatively, the system may send such a contact message automatically (see paragraph 81).

3. In the people tracking application, the analysis unit receives information about a locatee's destination or "range of travel". The analysis unit may detect a tracked locatee leaving the indicated range of travel, or a locatee entering an area "geo-referenced" as a "bad area" (see paragraph 93), and alert the locator accordingly. The locator may also be informed when locatees arrive at their destination or do not arrive there by an expected time (paragraph 98). Consent by the tracked "locatee" may be required (paragraph 95).

10.2 The board considers that **the inventive step objection by the examining division indeed lacks a crucial detail.** The board takes the view that **the objective technical problem considered in the problem-solution approach must be one which can realistically be assumed to have arisen at the priority date in order to allow the conclusion that, having regard to the state of the art, a claimed solution would have been obvious to a person skilled in the art** (Article 56 EPC 1973). If the *objective technical problem is formulated as to find a - i.e. any - implementation of a given non-technical method and a prior art document discloses a suitable platform, an inventive step objection requires an argument as to why the skilled person would have chosen the known platform to implement the method*. Alternatively, if the assessment **starts from prior art showing the implementation of another non-technical method** on some platform and the **objective technical problem is formulated as to modify that prior art solution into one which implements the desired method**, an *argument is required as to why the skilled person would have considered modifying or replacing the disclosed method*.

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10.3 Accordingly, the board considers that the examining division should have addressed the question of why "the considered business scheme" was one which the skilled person would have considered implementing on the specific platform according to D5. However, even though the board does not fully agree with the reasons given in the decision, it comes to the same conclusion as regards inventive step.

…

19. In summary, the appellant's response could not sway the board's opinion that the subject-matter of claim 1 of all requests lacks inventive step as the obvious solu-tion of a non-technical problem, Article 56 EPC 1973.

T 0827/13 (Providing cloud storage/SAMSUNG ELECTRONICS) of 26.11.2018

European Case Law Identifier: ECLI:EP:BA:2018:T082713.20181126

Client, brokerage server and method for providing cloud storage

Inventive step (yes)

Application number: 10163521.7
IPC class: G06F 17/30
Applicant name: Samsung Electronics Co., Ltd.

Board: 3.5.07

https://www.epo.org/law-practice/case-law-appeals/pdf/t130827eu1.pdf

The invention

2. The application relates to the processing of a file access request from an application in a cloud computing system (originally filed description, page 1, lines 6 and 7, and page 2, lines 5 to 10).

According to the application, cloud computing is a computing paradigm in which IT-related functions are supported in the form of services that are transmitted over a network. Cloud computing allows users to easily access desired services such as file storage over the internet, even if they do not possess particular knowledge regarding the technical infrastructures that are supported by the cloud computing system (description, page 1, lines 10 to 21). However, in known systems, clients are only allowed access to particular remote storages which are statically mounted (description, page 1, line 22, to page 2, line 2).

3. The application proposes using a brokerage server between the client and the cloud storage (see Figure 1), to which the client sends file access requests which do not access the local storage, but the cloud storage (Figures 1 to 3).

The brokerage server provides metadata in the form of file lists describing the files stored in the cloud storages to the client. For this purpose, the metadata manager of the brokerage server may manage file lists for each client (description, page 12, lines 11 to 18).

If an application of the client issues a file read request, the client storage manager searches for the location of the corresponding file. The client storage manager may determine whether the file is located in the local storage or in cloud storage, according to a file list for cloud storages received from the brokerage server, which is stored in the client's cache (description, page 14, line 21, to page 15, line 5).

Sole request

4. Claim 1 relates to a brokerage server for supporting a client, which comprises the following features, as itemised by the Board:

(a) the brokerage server being configured to be connected through the internet to the client and through the internet to at least one cloud storage;

(b) a server storage manager adapted to receive a cloud file access request for accessing the cloud storage from the client;

(c) a metadata manager to manage metadata including information about files stored in the cloud storage, this information including information indicating which cloud storage the files are stored in, and a storage location of the file in that cloud storage, the metadata manager being configured to manage lists of files associated with each client and to provide these file lists to a client storage manager of the client via the server storage manager at regular time intervals or in response to a request from the client storage manager;

(d) a storage broker for supporting brokerage between at least one cloud storage and the client, the storage broker being adapted to select at least one cloud storage suitable for processing the cloud file access request from among a plurality of cloud storages in a cloud infrastructure connected through the internet using at least one of the data attributes included in the file access request and the metadata;

(e) an interface adaptor adapted to convert the file operation of the file access request received from the client into a file operation suitable for an interface of the selected cloud storage and to convert the result of processing the file access request received from the selected cloud storage into a data format interpretable by the client;

(f) wherein the server storage manager is adapted to transfer the result of processing the file access request to the client. 6. Novelty and inventive step - Articles 54 and 56 EPC

6.1 The Examining Division assessed novelty and inventive step over document D1, which discloses systems and methods for hierarchical storage management (D1, abstract). A hierarchical storage system typically administers the placement of data sets into a hierarchy of storage devices. The hierarchy of storage devices may include a wide range of devices such as high-end, high-throughput magnetic disks, collections of normal disks, jukeboxes of optical disks, tape silos, and collections of tapes that are stored off-line in either local or remote

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storage. When deciding where data sets should be stored, hierarchical storage systems typically balance various considerations, such as the cost of storing the data, the time of retrieval, the frequency of access, and so forth. Typically, the most important factors are the length of time since the data was last accessed and the size of the data (D1, column 1, lines 34 to 50).

6.2 Even though the system in D1 deals with the migration of files in a hierarchical storage system and not with a cloud file storage service, at least some of the functionality implemented by the brokerage server of claim 1 can be mapped to the functionality of the hierarchical storage manager of D1 (see D1, column 9, lines 38 to 43; column 13, lines 14 to 27 and 41 to 49; Figures 4 to 6 and 9) as explained in detail below.

6.2.1 D1 already discloses the use of internet connections (D1, column 9, lines 33 to 43) and remote, networked communication with the remote storage (D1, column 13, lines 36 to 49). It also discloses that the hierarchical storage manager accesses remote storage (D1, Figure 9). While D1 may suggest connecting to the remote storage via the internet, it does not disclose feature (a).

6.2.2 The functionality of the server storage manager according to feature (b) can be mapped to corresponding functionality of the hierarchical storage manager, with the difference that in D1 a file access request is received, but not a "cloud file access request" (D1, column 13, lines 14 to 16; column 30, lines 58 to 61; column 31, lines 9 to 23; column 32, lines 2 to 16).

6.2.3 The hierarchical storage manager manages metadata about files stored remotely in a "remote data table" (D1, column 13, lines 52 to 61; Figure 4). Hence it can be partially mapped to the metadata manager according to feature (c) of claim 1. However, document D1 fails to disclose that the metadata manager manages file lists associated with different clients and provides these file lists to a client's storage manager via the server storage manager at regular time intervals or in response to a request from the client storage manager.

…
6.3 Consequently, the subject-matter of claim 1 differs from the system disclosed in document D1 as follows:

(i) the file access request is a cloud file access request;

(ii) the brokerage server is configured to be connected through the internet to the client and through the internet to at least one cloud storage;

(iii) the metadata manager is configured to manage lists of files associated with each client and to provide these file lists to a client storage manager of the client via the server storage manager at regular time intervals or in response to a request from the client storage manager.

6.4 **These differences contribute to creating a cloud storage service which allows clients to remotely access storage capability on the internet. Hence, the problem can be formulated as how to provide remote file storage services in the hierarchical storage management system of D1.**

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6.5 The **skilled person** faced with this problem **would certainly consider using the internet as a wide area network to connect to remote storage systems**. In view of the fact that D1 already explicitly suggests executing program modules remotely (D1, column 8, lines 25 to 37) and since the offloading of functionality from a client computer to a separate server computer is well-known, the Board considers that it was also obvious to separate the hierarchical storage manager functionality, at least in part, from the client to a separate server. Hence, the skilled person would arrive at the features according to differences (i) and (ii) without the exercise of inventive skill.

However, when the skilled person implements a part of the functionality of the hierarchical storage manager of D1 on a separate server, **the skilled person would continue to store the file metadata, in particular the remote storage attribute, in the local file system**. There is **no evident motivation for the skilled person to change the approach of storing the file metadata in the local file system to a completely different approach such as storing all the metadata concerning files stored in the cloud infrastructure on a remote server, as the system of D1 is optimised to access files stored locally and as it supports the local and/or remote storage of different parts of a single file**. As the system of D1 already stores the metadata needed by the client locally on the client in the stub files, there is **no reason why the skilled person, when starting from document D1, would consider implementing difference (iii), i.e. managing client-specific file lists at the brokerage server and providing these file lists to the client.**

6.6 …

The skilled person does not obtain any hint from D2 which would point him to the solution now claimed, in particular to the features according to difference (iii).

6.7 In view of the above, the Board considers that the subject-matter of claim 1 involves an inventive step according to Article 56 EPC over document D1 even when it is combined with document D2.

T 1046/14 (Icon manipulations on touch screen/OPTIS CELLULLAR) of 13.9.2018
European Case Law Identifier: ECLI:EP:BA:2018:T104614.20180913
Method of displaying object and terminal capable of implementing the same

Application number: 07006748.3
IPC class: G06F 3/048
Applicant name: Optis Cellular Technology, LLC

Board: 3.5.05

https://www.epo.org/law-practice/case-law-appeals/pdf/t141046eu1.pdf

Claim 1 according to the main request reads as follows:

"A method of displaying an icon attributed to an executable function in a terminal having a touchscreen (140), the method including:

- displaying the icon (141) and fixing the icon to a first position on the touchscreen such that the icon can not be moved away from the first position by a touch-and-drag action;

characterized by:

- if the icon is touched for a predetermined time, releasing (S27) the position fixation of the icon such that the whole icon can be moved away from the first position to a second position by a touch-and-drag action; and

- displaying a first indication to visually inform a user that the position fixation of the icon is released, wherein the displayed first indication includes at least one of a graphical indication, an animation, and a text message,

wherein the fixed icon is available to a user before the fixed icon is released."

3. Main request - inventive step

3.1 Prior art D1

D1 discloses control means for manipulating an object displayed on a touch screen. An object is defined in D1 as being a graphical representation of a file stored in memory and having specific shape, size and position on the screen (see column 3, lines 31 to 46, and Figures 11(a) and 11(b)). The touch position expressed as X-Y coordinates and the touch pressure applied by the user with one or two fingers on an object is discriminated and a manipulation type is identified (see from column 3, line 55, to column 4, line 5): pick manipulation, scroll manipulation, push manipulation, push-while-rotate manipulation, flip manipulation, roll manipulation, or distort-restore manipulation. The push manipulation can be considered to be identical to the touch-and-drag action described in the application: the user touches an object in a central position, applies a continuous movement of the touch contact from the initial position to a displaced position and then stops the movement while maintaining touch contact with the displayed object. In response to this manipulation, the control means of the touch screen moves the object to the displaced position and fixes it at this position.

D1 thus discloses a manipulation of an object which is similar, in terms of the movement and display of images on the screen, to the touch-and-drag and fixing actions described in the application.

However, the appellant has convincingly argued that the objects in D1 are not icons in the sense of claims 1 and 8. In that respect, the appellant pointed to the only passage and figure in D1 mentioning an icon (column 1, lines 47 to 56 and Figure 1), which clearly show that object and icon are different entities, an icon in D1 being a symbolic representation of a computer function which is used for manipulating an object. Furthermore, the entire teaching and the different manipulations described in document D1 solely relate to an object, never to the icon.

An object is described as having an "object type", specifying the shape and physical properties of the object (see column 8, lines 21 to 25: "weight", "hardness", "frictional resistance", "center of gravity"). The manipulations described in document D1 rely on these properties and on the type of the object, such as the type "out of screen" for the scroll manipulation, the type "gravity" for the flip-under-gravity manipulation, the type "rollable" for the roll manipulation, and the object type "elastic" for the distort-restore manipulation. These manipulations, and the properties described above for "objects", are not meaningful for an icon associated with a computer function and thus corroborate the understanding that the "object" of document D1 does not correspond to the claimed "icon".

As a result of this difference, in D1, preventing the activation of a function during the manipulations disclosed in D1 is not an issue since only the objects are manipulated and an object is not associated with an executable function. As a consequence, fixation of an object's position and releasing that fixation are not necessary, and are also not disclosed in D1. An object can be moved in D1 by a touch-and-drag action without having to first be touched for a predetermined time to be released, as defined for an icon in claim 1.

Based on these differences between D1 and the subject-matter of claim 1**, the objective technical problem may indeed be formulated, as argued by the appellant, as how to improve the system so that an icon of D1 associated with an executable function, not an object, can be moved on the touchscreen while at the same time preventing unintentional displacement of the icon**.

The skilled person will not find in D1 any hint at the possible manipulation of an icon. They would not consider applying the mechanisms for moving objects on the touchscreen to moving the icons, since there are fundamental differences between an icon and an object, such as the above-mentioned types and physical properties (e.g. gravity, friction). Even if the skilled person were implementing the described push manipulation for an icon, this would first result in the involuntary execution of the associated function as soon as the icon is touched.

The appellant has further plausibly argued that the advantages of the claimed solution, vis-à-vis the solution of document D1, include the implementation of a position fixation mechanism together with a simple and easy touch action to release the position fixation such that the position fixation prevents the user from moving the icon by touching and dragging the icon away unintentionally, while still allowing the user to easily move the icon to a desired position where they can easily find it again whenever they want to use it. The indication provided to indicate the release state further enhances the convenience of the system, by providing unequivocal feedback to the user about the state the icon is in.

Thus, the skilled person, starting from D1, **could not** arrive at a solution according to claim 1 without the exercise of inventive skill.

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T 0778/17 (GPU idle period/ERICSSON) of 23.10.2018

European Case Law Identifier: ECLI:EP:BA:2018:T077817.20181023

Technique for GPU command scheduling

Claims - clarity (yes)

Application number: 10004490.8
IPC class: G06F 9/50, G06F 9/48, G06T 1/20, G06T 15/00
Applicant name: Telefonaktiebolaget LM Ericsson (publ)

Board: 3.5.06

Cited decisions: T 2026/15

https://www.epo.org/law-practice/case-law-appeals/pdf/t170778eu1.pdf

Independent claim 1 of the main request read as follows:

"1. A method of scheduling the dispatching of Graphical Processing Unit, GPU, commands, the method comprising the following steps being performed by a scheduler (140):

receiving (302) commands from a plurality of applications;

buffering (304) the received commands; and

characterized by dispatching (306) the buffered commands as a command batch towards a GPU (180), wherein the dispatching is controlled based on a scheduling and independently from processing requests initiated by the GPU (180) itself, the scheduling being determined to control creation of a GPU idle period between two successive command batches dispatched towards the GPU (180) in which the GPU (180) enters a low power mode or goes to sleep."

The invention

1. The application relates to a graphics processor (GPU) used by several applications in parallel (see figures 1 and 2). It discloses that it was known in the art that schedulers could be used in order to prevent the GPU being monopolised by one of the applications (see page 2, paragraphs 3 and 4, of the application as originally filed). It states that the conventional, "application-centred" scheduling approach is disadvantageous and should be improved (page 2, paragraphs 6 and 7).

1.1 It is proposed that commands to the GPU are buffered and sent to the GPU in batches (see figure 2, box 240 and the arrow emanating from it; figure 3). This is said to be done "such that a GPU idle period is created between two successive command batches", during which the GPU could reduce its power consumption (see page 3, paragraphs 1 and 3; page 8, paragraph 2; page 9, paragraph 4; page 10, paragraph 3; figure 4). The idle period could be extended by, for instance, analysing the command batches and excluding some of the commands from being despatched to the GPU (see page 3, paragraph 4, and page 8, paragraph 3).

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1.2 It is also specified that the "display update rate" may have to be adjusted, in particular "pro-actively limited by the OS" in view of the "overall load and power consumption" of the system (see paragraph bridging pages 10 and 11).

The decision under appeal

2. The examining division **found that the claimed invention (according to all requests pending at the time) was insufficiently disclosed** and thus did not comply with Article 83 EPC due, **in particular, to the feature of "the scheduling being determined to control the creation of a GPU idle period between two successive command batches dispatched towards the GPU (180)"** (see the decision, points 3.1, 5.1 and 6.1 of the reasons). **The same feature was also found to be deficient under Article 84 EPC because it attempted to define the subject-matter in terms of the result to be achieved,** although it appeared possible to define the subject-matter in more concrete terms (see points 4.1 and 4.2 of the reasons).

Article 83 EPC

3. In the board's judgment, the invention, which according to Article 83 EPC must be disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art, is the invention as claimed.

…

4.2 The board takes the view that the skilled person would understand the feature in question as requiring the scheduler to do something more than only create command batches in order to create idle periods.

4.3 Claim 1 leaves open exactly what the scheduler does in order to create the idle period. On the other hand, it does not specify any desired property of the idle period or any property of the overall system that may have to be maintained even in the presence of an idle period.

4.4 It is therefore straightforward for the skilled person to carry out the invention. The scheduler could, for instance, despatch a new batch only after the previous one has been processed by the GPU and, in addition, after some - fixed or random - idle period has elapsed.

Article 84 EPC

5. The examining division's objection under Article 84 EPC is substantially based on the same perceived deficiency, namely the lack of detail in the claims as to how the scheduling is to determine the GPU idle period.

5.1 As already stated above (see point 4.3), the claims do not specify any property of the system that has to be achieved or maintained in view of the idle period thus created. In other words, the claims effectively require the creation of an idle period of any length, without any further "result" having to be achieved.

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5.2 The board takes the view that **in these circumstances the lack of detail as to idle period creation does not render claims 1 and 14 unclear**, Article 84 EPC.

…

6.2 The board stresses that it disagrees with the objections under Articles 83 and 84 EPC in the decision only on the basis of a broad claim interpretation. This interpretation is ratio decidendi for the board's decision, and the examining division will be bound by it under Article 111(2) EPC.

0144/11 (Security rating System / SATO MICHIHIRO) of 14.8.2018

European Case Law Identifier: ECLI:EP:BA:2018:T014411.20180814

Security rating system

Inventive step - objective calculation of the safety rating of an investment (no Inventive step - part of business requirement)
Inventive step - including count of transmissions of rating information in the rating (no Inventive step - obvious implementation of business requirement)

Application number: 03012362.4
IPC class: G06F 17/60
Applicant name: Sato, Michihiro
Board: 3.5.01

Catchwords:

A problem of the type "implement [the business requirement]" will normally never lead to an allowable claim. Either the implementation will be obvious or have no technical effect, or if not, the implementation will have a technical effect that can be used to reformulate the problem essentially to "achieve [the effect of the implementation]".

However, the implementation-type problem is just a starting point that might have to be modified when the implementation is considered. It helps when a technical problem is not apparent at the outset. Examining the business requirements carefully and correctly establishing what is to be implemented ensures that all technical matter arising from the idea of the invention and its implementation is taken into account for inventive step (see point 2.7).

Cited decisions: T 0163/85, T 0026/86, T 0038/86, T 0641/00, T 0858/02, T 1463/11

https://www.epo.org/law-practice/case-law-appeals/pdf/t110144eu1.pdf

The main request contains corresponding independent system and method claims, claim 1 reading as follows:

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"1. A security rating system comprising a security rating server (100d) and a security rating client (200b) connected with said security rating server (l00d) via a communication network (300), wherein said security rating server (100d) comprises:

a security information table storing means (171d) configured for storing a security information table that records security elements, i.e., data that constitute a security measure, for each security;

a rating value calculating means (173d) configured for calculating a sum of rating contribution values for each security information table using a rating contribution value table, which stores contributing values for rating of securities belonging to said security elements as rating contribution values, and for recording said sum of rating contribution values thus calculated as a rating value in said security information table;

a security information table transmitting means (174d) configured for transmitting said security information table to said security rating client (200b) when a security information table transmission request is received from said security rating client (200b); and

a transmission counting means (177d) configured for incrementing by one the number of transmissions, which is a security element recorded on said security information table, each time when said security information table is transmitted to said security rating client (200b) by said security information table transmitting means, wherein

said security rating client (200b) comprises:

a security information table transmission request transmitting means configured for transmitting said security information table transmission request to said security rating server (100d); and

a security information table receiving means configured for receiving said security information table from said security rating server (100d)."

1.1 **The invention concerns assessing the credibility of securities, e.g. bonds, and calculates rating values for them**. The rating values provide a ground for investors to judge the safety of a bond prior to investments on certainties of redemptions of principals and payments of interests of the bonds, see paragraphs [0003] and [0004] of the published application.

1.2 The general idea of the invention is to **provide an "objective calculation" of these rating values which means that the rating of a security is done in relation to the rating of other securities**, see paragraph [0006]. According to paragraphs [0007] and [0077], all securities that share a common aspect, called "security element", for example a common guarantor such as the government of Japan, are provided with an equal "rating contribution value".

The overall rating value is calculated by summing the rating contribution values of the different security elements, e.g. guarantor, executor, face value, interest rate, etc. [0062] to [0066].

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The number of times that a client has queried a particular security is provided as an additional security element [0135]. This takes the popularity of the security into account [0142].

2. Article 56 EPC - Deriving the technical problem

2.1 **This case, like many in this field, is all about drawing the line between technical and non-technical subject-matter.** This is of critical importance since as stated in decision T 641/00 (COMVIK), only features with technical character can support the presence of inventive step. As a result, non-technical aspects of the invention may legitimately appear in the formulation of the problem as part of the framework of the technical problem that is to be solved, in particular as a constraint that has to be met.

2.2 Recent decision T 1463/11 (Universal Merchant Platform / CardinalCommerce) considered this framework in the form of business requirements that a "notional business person" could give to the technical skilled person to implement. The decision stated at point 13 that the **business requirements should not contain any technical aspects**.

2.3 The invention in that case was about authenticating consumer-merchant transactions with financial entities using different authentication protocols. The idea of the invention was to move the software plug-ins that authenticate transactions from merchants' individual servers to a separate centralised transaction processing service provider server. The examining division had considered that the invention amounted to outsourcing the authentication of a commercial transaction to a third-party, which was a business activity. The technical problem was thus how to implement this, the use of a separate server being obvious.

2.4 **The Board considered that this abstraction overlooked technical considerations that were inherent in the use of plug-ins and servers. As a result, the concept of centralisation could not be included in the problem as a business requirement.**

2.5 During the course of the present appeal, the appellant alleged that T 1463/11 did not actually state the technical problem that centralising the authentication plug-ins in a separate server solved. However, the present Board considers that it was implicit from the statements in points 21 and 23 of this decision that the problem was to simplify software maintenance at the merchant servers.

2.6 **Removing the concept of "centralising" from the business requirement meant that it became part of the solution. The technical problem changed from implementing the business requirement to achieving the effect of the centralisation, namely to simplify software maintenance at the merchant servers**. The Board went on to find that solution inventive. This case demonstrated that a careful analysis of which parts of a claimed feature involve a business requirement can help to resolve the grey area between technical and non-technical features.

2.7 A corollary of this approach, and what is seen in practice, is that **a problem of the type "implement [the business requirement]" will normally never lead to an allowable claim. Either the implementation will be obvious or have no technical effect, or if not, the implementation will have a technical effect that can be used to reformulate the problem**

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essentially to "achieve [the effect of the implementation]". However, the implementation-type problem is just a starting point that might have to be modified when the implementation is considered. It helps when a technical problem is not apparent at the outset. **Examining the business requirements like that and correctly establishing what is to be implemented ensures that all technical matter arising from the idea of the invention and its implementation is taken into account for inventive step**.

2.8 In the Board's view, another constraint is that the technical skilled person must receive a complete description of the business requirement, or else he would not be able to implement it and he should not be providing any input in the non-technical domain.

3. Article 56 EPC - Main request

3.1 The Board agrees with the examining division's finding and it was not disputed that **the present invention generally addresses a commercial problem which is to provide reliable ratings for investors to decide about investments in securities**.

3.2 The rating of securities, the recording of security elements constituting a security, the calculation of contribution values, as well as the determination of the popularity of security ratings are fundamentally non-technical, being essentially aspects of either a business method, a mathematical method or both.

3.3 Claim 1 contains the above-mentioned ideas of summing the rating contribution values of the security elements, including the popularity of the security as measured by the number of transmissions of the security information to clients. The security elements, the rating contribution values, and the overall rating are all stored in tables.

3.4 The appellant formulated the problem to be solved as "determining reliable ratings for securities". In the Board's judgement this problem is too broad. It omits the details of the "objective calculation" of rating values of securities, which aims to rate a security in relation to other securities, see paragraph [0006]. Thus, according to paragraph [0007], an equal rating contribution value is provided to all securities that share a common security element. When more than two national or local governments or public institutions, etc., become planners, the rating contribution values provided by them is summed up [0060] to [0066].

3.5 These **details of the "objective calculation" are part of the overall business concept which the invention addresses and must be given to the technical skilled person as part of the requirements specification.** Indeed if this were not the case, the technical skilled person would have to devise them in order to provide a solution, which is, as stated above, not his task.

3.6 The appellant also argued that counting the number of transmissions was inherently technical and was an idea which the technical person skilled in the art would come up with when asked by a business person to propose a good rating of securities. Counting transmissions does indeed sound technical, but in the Board's view the question is why would the technical skilled person come up with the idea of counting transmissions. It can only come from the above-mentioned requirement to reflect the popularity of the security in its rating value.

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3.7 **Reflecting the popularity in the rating value of the securities is also a business-related idea.** Within a business context of investors who seek the most accurate and reliable information prior to making investments, see paragraph [0003], the most credible rating of securities is fundamental. According to paragraph [0142], this is one which reflects the popularity of these securities among the users.

3.8 The popularity is measured by counting the number of transmissions. **The observation that the "transmission of data" between a client and server is technical - which is undoubted - does not necessarily imply that the mere idea of "counting" these transmissions is also technical. The question is whether the idea of counting is on the business side of the line or on the side of the technical implementation**.

3.9 The Board judges that counting is rather part of the business specification. The more popular a security is, the higher is the number of investors interested in receiving information about it. Within a business setting, this would amount to counting the number of telephone calls, the number of emails sent, the number of letters, votes received, etc. **All these thoughts are made by the notional business person.**

3.10 The appellant argued that it was not inevitable to count the number of interested investors; polls or advertisements could be used. However, this is irrelevant since the idea is part of the business requirements. In any case, the ratings in such liquid markets are expected to be done in real-time to be reliable. Polls and advertisement campaigns are certainly unsuitable.

3.11 Accordingly, **the Board concludes that it is part of the business concept to count the number of investors interested in the security information tables. The implementation by counting the number of transmissions and choice of technology to do this are then part of the technical solution.**

3.12 Finally, **the establishment of tables for representing and storing the information and calculated values are also part of the business considerations. They are structural representations of financial information.**

3.13 In the Board's view, technical considerations only come into play when implementing the above business concepts. The technical person skilled in the art is given the requirement of performing the given objective calculation of rating values of securities.

3.14 The Board agrees with the examining division that **the sole clearly technical features are the server and clients which exchange data over a computer network. These features are notorious**. By way of example, D3, Figure 1, illustrates a client/server-based real-time online trading system with a central database where investors connect via trading client computers to a server for accessing, submitting and processing trading orders, filtering and messaging preferences, credit limits and/or historic trading data, current holdings data and generating and communicating messages, see page 14, lines 7 to 12. D3 addresses the problem of "aggregat[ing] a critical mass of trade prices to provide accurate, real time estimates of a security's fair value and make these estimates widely available by publishing them...", see page 6, lines 26 to 28, which is close to that of the present application.

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3.15 The Board also agrees with the examining division that the skilled person would have no difficulty in implementing the invention on such a conventional client and server system. All major functions of the business concept are implemented as modules on a server, as shown for example in Figure 3 of the application, which is in connection with clients, see for example Figure 1. It is clear from the application that these are standard servers and clients, see for example paragraphs [0049] and [0076].

3.16 Faced with the problem of counting the number of interested investors, the Board judges that it would be self-evident to consider the number of client requests for information. This is equivalent to counting the number of transmissions of a security information table to a client as claimed. Thus, the counting and storing of data as part of the implementation does not involve an inventive step.

3.17 Claim 1 of the main request therefore does not involve an inventive step, because it amounts to an obvious implementation of a business concept using a notorious client/server system.

T 1959/12 (Software anti-tamper measures/INSIDE SECURE) of 4.9.2018

European Case Law Identifier: ECLI:EP:BA:2018:T195912.20180904

AN ANTI-TAMPER SYSTEM EMPLOYING AUTOMATED ANALYSIS

Claims - clarity (no)

Application number: 09729198.3
IPC class: G06F 21/24
Applicant name: INSIDE SECURE

Board: 3.5.06

Cited decisions: T 0296/93

https://www.epo.org/law-practice/case-law-appeals/pdf/t121959eu1.pdf

Claim 1 reads as follows (emphasis added by the board):

"A computer implemented anti-tamper system operable to:

(i) profile at runtime an executable application software to provide profile information about the application software,

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(ii) determine injection positions where to inject integrity checks into a source code of the application software, using the profile information, the profile information identifying functions in the application software where to inject the integrity checks, each of the integrity checks enabling a subsequent verification of whether or not the application software has been tampered with, a <u>defensive action</u> being taken when one of the integrity checks detects a modification of the application software,

(iii) inject the integrity checks into the source code at the determined injection positions, which produces a modified source code, and

(iv) generate a protected executable application software from the modified source code,

characterised in that the profile information comprises frequency-domain information recording frequencies at which each function of the application software is called, and during which time range each frequency occurs, the determination of the injection positions comprising:

selecting an injection position in a lower-frequency function to reduce performance overhead of the application software;

selecting an injection position in a higher-frequency function to increase a protection level of the application software; and

detecting unstable functions based on the frequencies and time ranges recorded for each function and rejecting an injection position in an unstable function."

5. Clarity and support, Article 84 EPC

5.1 Claim 1 now sets out the consequence of detecting tampering as "**defensive action being taken when one of the integrity checks detects a modification of the application software**"

5.2 In the oral proceedings the Board raised objections under Article 84 EPC questioning clarity and support of the aforementioned newly introduced feature. <u>The appellant argued that the skilled person would understand from the application that "defensive action" referred to actions which were appropriate for improving the protection of the software</u>. Such actions could however not rely on the Internet, since the application might be running on a computer isolated from the Internet. An appropriate defensive action would, for example, be to terminate the application.

5.3 The board finds that **the application provides no explanation of the expression "defensive action" or examples of it. The appellant has also provided no evidence that the term "defensive action" has an accepted meaning in the art and would thus be familiar to the skilled person.** The board is also unaware of a generally accepted meaning of the expression. The term "defensive action" might, for example, be understood to cover displaying a warning that the software had been modified contrary to its licence conditions or instead to cover, at the next opportunity, sending information via the Internet identifying the

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application and the user to a server operated by the software vendor. Either action could be seen as an appropriate alternative to terminating the program. Under these circumstances the board takes the view that the technical meaning of the expression "defensive action" is unclear. It is also unclear where the limits of "defensive action" lie, for example whether it excludes actions using the Internet or not.

5.4 Hence **claim 1 is unclear and not supported by the description**, contrary to Article 84 EPC.

T 2489/11 (Panning and scrolling/HTC) of 2.8.2018

European Case Law Identifier: ECLI:EP:BA:2018:T248911.20180802

Electronic devices with touch-sensitive navigational mechanisms, and associated methods

Claims - clarity (no)

Application number:	08103901.8
IPC class:	G06F 3/048
Applicant name:	HTC Corporation
Board:	3.5.05
Cited decisions:	G 0010/93, T 0996/12

https://www.epo.org/law-practice/case-law-appeals/pdf/t112489eu1.pdf

Claim 1 of the first auxiliary request is identical to claim 1 of the second auxiliary request and differs from claim 1 of the main request in that it has the following additional features:

"wherein said sensing component (109) includes boundary portions (109a-109d) extending beyond the display (108), wherein the input circuitry (110) is further configured for measuring a duration and a position of the first touch, and wherein the processor (114) is further configured for comparing the measured position of the first touch to a location of the display (108), and

the processor (114) indicates that the first touch is an input for continuous panning if the measured duration of the first touch is greater than the threshold and the measured position of the first touch extends beyond the display (108) and

that the first touch is an input for panning once if the measured duration of the first touch is greater than the threshold and the measured position of the first touch does not extend beyond the display (108)."

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2. Auxiliary requests - clarity (Article 84 EPC) and sufficiency of disclosure (Article 83 EPC)

2.1 Claim 1 of all auxiliary requests on file refers to "**panning**", and claim 1 of the fourth to seventh auxiliary requests refers to "scrolling". The board fully agrees with the assessment of the contested decision that these terms do not have a clear-cut distinction in the relevant art and hence lack clarity (Article 84 EPC).

2.1.1 The appellant submits that the application does not necessarily have to make use of the general conventions of "scrolling" and "panning" in the prior art and that the <u>application may represent a dictionary of its own</u>.

2.1.2 The <u>definition of the term "panning" in the application is to be found in paragraph [0043]</u>, where it is stated that "panning ... refers to unidirectional (e.g. vertical or horizontal) shifting of an entire screen of a display (e.g. the user interface 120)". As a result the device would "display the next 'page' of the message list 124" [applicant's quotation marks around "page"]. There is an additional sentence in [0028] stating that the user interface is panned "by displaying the next frame of the user interface". Although one passage refers to the next "page" and the other to the next "frame" of the user interface, the appellant seems to have merged these passages into a definition, as "panning means unidirectional shifting of an entire screen of the user interface and displaying a next frame of the user interface" in the claim language.

2.1.3 The <u>definition of the term "**scrolling**" in the application is to be found in paragraph [0046]</u>, where it is stated that "scrolling ... refers to an act of sliding a horizontal or vertical presentation text, drawings, images, and/or other content screen across a screen". As a result the device would "slide each of the email messages 125 vertically across the display 108". The appellant seems to have incorporated this definition from paragraph [0046] into the claim language.

2.1.4 **The board concurs with the contested decision that these definitions do not render the unclear terms "panning" and "scrolling" clearer.** The **definition of "panning" relies on technically unclear metaphors of "pages" or "frames"**, as also suggested by the use of "pages" in quotation marks in the description. **The transitions in the user interface also rely on movement metaphors such as "sliding" and "shifting", which are almost impossible to distinguish in the context of user interfaces**.

2.1.5 Furthermore, the **application does not describe how an example user interface is to be "panned" or "scrolled"**, contrary to the provisions of Rule 42(1)(e) EPC, according to which the description has to describe in detail at least one way of carrying out the invention using examples. The lack of examples and the difficulties the skilled person encounters when trying to follow the various flowcharts (see 2.3 below) lead to a situation where the skilled person cannot carry out the claimed invention without undue burden, contrary to the provisions of Article 83 EPC.

2.2 Claim 1 of all auxiliary requests further refers to **"continuous panning" and "panning once", which the board also judges to be unclear** (Article 84 EPC).

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2.2.1 The appellant submits that the definition of "panning" is "unidirectional shifting of an entire screen of the user interface and displaying a next frame of the user interface", and therefore "panning once" clearly means shifting the entire screen only once, whereas "continuous panning" means shifting an entire screen continuously.

2.2.2 In the board's judgement, however, the plain meaning of the words "once" and "continuously", contrary to what the appellant suggests, does not remedy the lack of clarity of the term "panning". The board even finds the word "continuously" to be vague and unclear, as in English it might mean either "unceasingly" or "at regular, frequent intervals". As there is no further explanation or example of the distinction between "panning once" and "continuous panning" in the description, let alone of "panning", contrary to the requirements of Rule 42(1)(e) EPC, it is unclear what kind of a change in the user interface is meant by "panning once" or "continuous panning".

2.2.3 Furthermore, claim 2 of the first auxiliary request and claim 1 of the third and fourth auxiliary requests specify that the step of "panning once" or "continuous panning" is "continued ... as long as the first touch is not released". It is impossible to follow, even at an abstract, conceptual level and irrespective of what "panning once" and "continuous panning " should mean, how a "continued" "panning once" can ever be distinguished from a "continuous panning".

T 0657/12 (Electronic training / ESPEED) of 22.6.2018
European Case Law Identifier: ECLI:EP:BA:2018:T065712.20180622
Trading application program interface

Inventive step - trading rules (no
Inventive step - not technical)
Inventive step - effect of reduction in number of messages (no
Inventive step - not credible)

Application number:	04255492.3
IPC class:	G06F 17/60
Applicant name:	eSpeed, Inc.
Board:	3.5.01
Cited decisions:	T 0641/00, T 0012/08

https://www.epo.org/law-practice/case-law-appeals/pdf/t120657eu1.pdf

Claim 1 of the main request reads as follows :

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1. An interactive electronic trading system for trading an item between participants, the system comprising one or more programmed computers configured to:

enable a first participant to enter a bid, offer, buy or sell for the item at a selected price;

receive a bid, offer, buy or sell entered by a second participant to trade the item at the selected price; and

execute a trade in accordance with the bid, offer, buy or sell;

characterised by said one or more computers being further configured to: (i) queue a bid, offer, buy or sell to trade at a price other than the selected price; (ii) hold an order which is contra to the queued bid, offer, buy or sell and which is at a price no worse than the price of the queued bid, offer, buy or sell for a defined period of time; and (iii) during said period of time, automatically determine availability of a contra order in the system at a price better than the price of said held contra order and: (a) on occurrence of the determination of the availability of a said contra order at a said better price, automatically match the queued bid, offer, buy or sell with said available contra order at said better price; (b) on the occurrence of the determination of no availability of a said contra order at a said better price, automatically match the queued bid, offer, buy or sell with said held contra order.

1. Background

1.1 The **invention concerns quantitative analysis trading**. This trading is referred to in the application as a trading strategy that **makes use of information technology to substantially remove the human element from the decision-making process involved in trading**.

1.2 This is achieved by a trading application program with an application program interface (API) that conforms to a set of preferably real-time trading rules. The **trading system guarantees certain prices of the traded items**. It is implemented on one or more programmed computers, e.g. workstations, which are connected over a computer network to a server.

2. Article 56 EPC

…

2.3 The examining division argued that the **following features in claim 1 were non-technical and related to a business method** :

"An interactive trading [system] for trading an item between participants, configured to

enable a first participant to enter a bid, offer, buy or sell for the item at a selected price;

receive a bid, offer, buy or sell entered by a second participant to trade the item at the selected price; and execute a trade in accordance with the bid, offer, buy or sell;

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queue a bid, offer, buy or sell to trade at a price other than the selected price; hold an order which is contra to the queued bid, offer, buy or sell and which is at a price no worse than the price of the queued bid, offer, buy or sell for a defined period of time; and during said period of time, determine availability of a contra order in the system at a price better than the price of said held contra order and: (a) on occurrence of the determination of the availability of a said contra order at a said better price, match the queued bid, offer, buy or sell with said available contra order at said better price; (b) on the occurrence of the determination of no availability of a said contra order at a said better price, match the queued bid, offer, buy or sell with said held contra order."

2.4 The examining division considered that the technical character of claim 1 resided in the technical means used for implementing the trading scheme, that is, the feature "interactive electronic system comprising one or more programmed computers" and the related automation of the above interactive trading concept.

2.5 The appellant argued that all features of claim 1 were technical, because they **all interacted and achieved a reduction in the number or messages passed over the network**. The appellant referred to page 18, lines 14 to 20, of the application as filed in support of this argument.

2.6 The Board is of the view that **the appellant cannot rely on a reduction in the number of messages**. The Board notes that page 18, lines 14 to 20, of the application ascribes this advantage to "**some embodiments**" set out in the preceding paragraphs, but those embodiments do not include any configuration to "hold an order ... at a price no worse ... for a defined period of time" or "automatically determine availability of a contra order...". Even if there was **any advantage in terms of the number of messages, it does not depend in any way on the technical infrastructure.** If the same trading rules were implemented by word of mouth, the same number of messages would be passed, and the same advantage (if there is one) would be obtained.

2.7 Therefore the Board cannot see any technical effect beyond the provision of a "notorious" computer system suitable for implementing the trading system. Thus, irrespective of whether the invention is viewed as a development of D1, a computer-based data processing system for managing select trading, comprising a plurality of trading workstation linked with a server, see column 4, line 63, to column 5, line 15, or as the provision of a suitable technical infrastructure for a trading system, there is no inventive step.

The Board further notes that the application itself refers on pages 11 to 12 to any suitable server, processor or computer, any suitable equipment and standard personal computers for the implementation of the disclosed interactive trading concept.

2.8 The **appellant argued that the feature to hold an order for "a defined period of time" during which the availability of contra orders is automatically determined, would have technical character**, because it involved the use of a (albeit software-implemented) clock, a feature which was recognised in T 12/08 to have technical character. The appellant further pointed out that the remaining features of the characterising portion of claim 1 were technical, because they interacted with the technical element of "a clock" so as to produce a technical effect.

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While an albeit software-implemented clock may have technical character, the Board considers the setting of "a period of time" during which contra orders are determined to belong to the business concept of the invention, as mentioned on page 13, lines 12 to 21, of the application. The idea of setting a period of time is non-technical and the interaction with this non-technical feature cannot not lead to a technical effect.

2.9 The appellant further argued that the feature of queuing computer commands (bids or offers) was technical because it involved a storing of commands in memory rather than simply causing them to be executed.

The Board does not agree. The feature "queuing a bid, offer, buy or sell" to trade at a certain price belongs to the underlying business concept rather than to a computer-implementation. This business concept requests holding back these bids or offers until a certain price can be obtained. Furthermore, as part of automating the underlying business concept on an interactive electronic computer system, these features may lead to a storage of data in memory, but this feature is then part of a straight-forward computer-implementation which is obvious for the person skilled in the art based on common-general knowledge.

2.10 For these reasons, the subject-matter of claim 1 does not involve an inventive step (Article 56 EPC).

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