This document includes some recent decisions of the EPO in 2021 with regards to software related inventions and shows relevant extracts from the respective decisions.

T 0935/14 (Associated accounts/BLACKBERRY) of 28.4.2021

European Case Law Identifier: ECLI:EP:BA:2021:T093514.20210428

System and method for providing access to a service relating to an account for an electronic device in a network

Claims - clarity (no)
Claim interpretation - broad vs. vague claims

Application number: 10154934.3
IPC class: G06F 9/445, G06F 21/00, H04L 29/08, H04L 29/06
Applicant name: BlackBerry Limited

Board: 3.5.06

https://www.epo.org/law-practice/case-law-appeals/pdf/t140935eu1.pdf

The invention

3. The invention relates to providing access to messaging services normally accessed from (trusted) mobile devices. Such a mobile device is said to have a primary account associated with it (paragraph 58), allowing access to a messaging application on the server (paragraphs 39 and 40).

4. According to the application, it would be beneficial for the user to be able to access the application from terminals (e.g. a desktop computer) providing ease of use (keyboard, larger screen etc.) - see paragraphs 2 and 3 of the description. The invention proposes enabling such use by using the mobile device to request the server to create associated accounts for the terminal. Three types are exemplified: a hosted account (paragraphs 59, 63, 64, figure 2A), a temporary account (paragraphs 60, 65, figure 2B), and a meta account (paragraphs 61, 66, figure 2C). All these accounts provide access to the messaging service from the terminal, as long as the terminal-mobile device connection is maintained (paragraph 21). This is said to provide flexibility, and security for the primary account (paragraph 58).

Clarity (Article 84 EPC)

5. Claims 1 and 2 of the sole request on file define methods comprising steps corresponding to the creation of an associated account, including **a definition of the three types of associated accounts**, and a final step of providing access to the messaging services using the created

associated account. Upon reading the claims, the Board made the following provisional observations.

6. It is not clear what is the structure and content of the three types of associated accounts, i.e. what is actually stored on the server.

6.1 The claims distinguish the three accounts only on the basis of their name, and of the content of the messages that would go through those accounts, which are said to include unique identifiers. These identifiers are:

- hosted account: identifier unique to the mobile device

- temporary account: temporary unique identifier associated with the mobile device and the terminal device

- meta account: unique identifier based on unique identification data associated with the mobile device.

On the basis of this wording, no difference can be identified between at least the meta and the hosted types.

6.2 An associated account (any of the three types) is further said to be created using identification data relating to the terminal device and the primary account associated with the mobile device. This expression defines neither what is actually stored when creating the account, **nor how the three types of accounts are distinguished**.

7. It is also **not clear how, and if, the associated accounts are used**. These accounts are said to be associated with a primary account for said mobile device. Message formats for the primary account are not defined, but one possible, even standard, option, is to use a device identification number (see paragraph 54), i.e. the same messaging scheme as for the hosted and meta accounts. This raises the question as to how can the server distinguish between messages formatted for an associated account (e.g. hosted or meta) and the ones for the primary account, in particular when the messages come from the mobile device itself, as according to claim 1 (see also paragraph 63 describing the hosted account: "With a proxy implementation, commands/instructions/messages from computer 116 may appear to server 114 as originating from device 108c".). If this is not possible, are the associated accounts used at all, or do all messages go through the primary account in this context?

8. The appellant **acknowledged that there was overlap between the definitions** of the associated accounts, and acknowledged that the claim language left the possibility that account creation was redundant, i.e. that the messages might go through the primary account. According to claim 2 though, one could differentiate messages based on the (third) communication link used, so messages coming from the terminal would have to go through an associated account.

9. The appellant argued that the **claim might be considered broad in its definitions, including overlapping or redundant implementations, but that this was not a problem of clarity**. The scope of the claim needed to be clear, which was the case here. One would know

whether a certain method was covered by the scope of the claim or not, there was no need to detail the embodiments in the claim. The claim required, upon request from the mobile device, the creation of an associated account, using mobile and terminal information, defined the three types of accounts, and required a corresponding certain format of messages, and further required that the associated account be used. All this could be verified, because the wording of the features, though broad, was clear.

10. **The Board disagrees with the appellant's conclusions** for the following reasons. Under the EPC, claim construction is not a purely linguistic exercise. The board endorses the established case law according to which it is the skilled person who will construe the claim with a mind willing to understand such as to arrive at a claim interpretation which is technically sensible (see Case Law of the Boards of Appeal, 9th edition, II.A.6.1, esp. the first paragraph). **If such an interpretation is not possible, then the claim is not clear.**

10.1 In view of the appellant's argument that the features are worded clearly, the Board further notes that a **prerequisite for arriving at a technically sensible claim interpretation is that the claim is technically consistent**: **if two features are separately clear, but are inconsistent with each other from a technical point of view, then their combination, and the claimed matter, cannot be clear.**

10.2 The Board agrees with the appellant that broad features may be considered clear, but only under the proviso that the borders of the - broad - scope of protection can be clearly inferred by the skilled person. This makes the distinction between broad but clear and broad and vague. If a feature formulation is such that some further technical features appear to be implied, particularly in view of the features' technical function, but it is not clear what those precisely are, then the claimed feature is vague and not clear.

11. In the present case, the **claim fails on more than one account in view of the above considerations.**

11.1 As detailed before (point 6), the three types of associated accounts are not clearly distinguished. In the Board's judgment it is **unclear to the skilled person whether the overlap between the three definitions was intended or not**. If it were, the technical purpose of specifying two indistinguishable accounts (hosted and meta) would be technically questionable and, arguably, render claims 1 and 2 inconcise, Article 84 EPC. If it were not, the question would arise as to which other features might be implied - esp. by the terms hosted or meta - so that the accounts could be effectively differentiated.

11.2 A minimal claim construction, i.e. with no further implied features, would also be technically inconsistent: for instance, in that a hosted account is created to be used for messaging by the terminal, but is actually not used (point 7 above). This raises the question as to which other features may be implied, either as message formatting, or upon the server side, or both, so that the account is used.

11.3 The (intended) answer may lie in the account creation steps. But, as noted above, the creation steps are vaguely defined. For instance, under a literal reading, an account creation wherein the server merely checks whether the identification data relating to the terminal device is properly formatted falls under the claim scope. But then, the question arises how this

account can be used, as required by the claim? **For the claim to make technical sense, some further technical features need to be read into the claim. It is not clear which those are.**

12. The Board concludes that claims 1 and 2 of the sole request lack clarity in the sense of Article 84 EPC.

T 3256/19 (Surprising feature mapping/BIOGY) of 21.5.2021

European Case Law Identifier: ECLI:EP:BA:2021:T325619.20210521

Passcodes

Decision in written proceedings - (yes)
Substantial procedural violation - violation of the right to be heard (yes): surprising novelty assessment
Remittal - fundamental deficiency in examination proceedings (yes)
Reimbursement of appeal fee - (yes)

Application number: 06748170.5
IPC class: H04K 1/00, G06F 21/30
Applicant name: Biogy, Inc.

Cited decisions: R 0003/13, R 0002/14, T 0763/04, T 1557/07, T 2012/17

Board: 3.5.03

https://www.epo.org/law-practice/case-law-appeals/pdf/t193256eu1.pdf

Claim 1 of the main request underlying the decision under appeal reads as follows:

(a) A machine-implemented method for determining whether to grant access to a secure entity comprising:

(b) receiving a passcode from a user;

(c) retrieving a passcode generator;

(d) generating, via the machine, the passcode that is valid temporarily, based on information associated with a user from the passcode generator;

(e) determining whether the attempted access is permitted, based on the passcode,

(i) including determining whether the generated passcode matches the received passcode,

(ii) if the generated passcode matches the received passcode, granting the user access to a secure entity;

(f) if the generated passcode matches the received passcode, perturbing the passcode generator to create a new passcode generator;

(g) storing the new passcode generator in place of the passcode generator.

The board holds that, at least in terms of the factual reasoning, the **applicant must have been taken by surprise** by the reasons of the decision under appeal in view of the following observations.

3.2 Merely from a formal point of view, the novelty analysis set out in point 7 of the reasons of the decision under appeal mentions several passages of D1 that were never brought to the applicant's attention, namely at least

- column 9, lines 35 to 37 with respect to feature (b);

- column 8, lines 19 to 38 with respect to features (e), (e)_(i) and (e)_(ii).

3.3 From a substantive point of view, the **mapping** in point 7 of the reasons of the decision under appeal **presented the applicant with new information relevant for understanding and appropriately replying to the examining division's chain of reasoning** as regards the matter of novelty, namely for the following reasons:

3.3.1 As regards feature (b), the examining division … must have equated the "passcode" of this feature, i.e. the "received passcode" referred to in features (e)_(i), (e)_(ii) and (f), with the "username and password" or the "biometrics feature" provided by the user of D1 to log on.

It is not apparent from the file that the examining division communicated this decisive mapping to the applicant before issuing their decision, in spite of the fact that, ahead of the oral proceedings before the examining division, the applicant

- explicitly commented that the novelty objection raised by the examining division was not explained with enough detail;

- had expressly regarded "the passcode" as a feature that renders the subject-matter of claim 1 new over D1.

…

3.3.4 As regards features (e), (e)_(i) and (e)_(ii), the examining division referred to column 8, lines 19 to 38 of D1 in the decision under appeal. **Apart from this passage having never been indicated to the applicant, it also brings about an inconsistency in the examining division's feature mapping for the reasons set out below**.

3.3.4.1 D1 teaches in column 8, lines 19 to 38 the following regarding the process flow of Figure 3 (reproduced below):

(i) "in step 320, the new randomly generated password is transmitted to the client 208 which, in turn, transmits the username (if provided) and the new password back to the server 102 in step 322" (emphasis added by the board);

(ii) "[i]n step 324, the biometrics account manager 224 compares the username and password received from the client 208 to the list of usernames and passwords stored in the users database 232" (emphasis added by the board);

(iii) if a match is found, the log on process is completed in step 330.

FORMULA/TABLE/GRAPHIC

3.3.4.2 The skilled reader would readily understand that the "new randomly generated password" mentioned in teaching (i) above regarding step 320 is the same as the "user's new password" of lines 30 and 31 or the "newly generated password" of lines 31 and 32 of column 3 of D1. It therefore represents the "generated passcode" of features (e)_(i) and (e)_(ii), referring to the passcode generated in accordance with feature (d) of claim 1 (see also point 3.3.3 above).

3.3.4.3 Furthermore, the skilled reader would also immediately recognise that the "password received from the client 208" of teaching (ii) is the "new randomly generated password" or, in short, "the new password" mentioned in teaching (i).

3.3.4.4 Feature (e)_(ii) requires the "generated passcode" of feature (d) to match the "received passcode" of feature (b). Mapping this requirement onto teachings (ii) and (iii), this means, in view of points 3.3.4.2 and 3.3.4.3 above, that the "received passcode" of feature (b) must be the "list of usernames and passwords stored in the users database 232" (board's emphasis) according to teaching (ii).

This mapping is, however, inconsistent with the identification in point 3.3.1 above, according to which the "received passcode" should be, in D1, the "username and password" or the "biometrics feature" provided by the user to log on.

3.3.5 As regards features (f) and (g), the examining division referred in the decision under appeal to column 3, lines 26 to 35, or, alternatively, to column 8, lines 11 to 19 of D1. They concluded in view of these references that "the generator is perturbed, because the new password is used as the new generator". This means that, in the decision under appeal, the examining division regarded

- the "user's new password" of lines 30 and 31 of column 3 of D1

or, correspondingly,

- "the newly generated password" of lines 31 and 32 or of line 34 of column 3 of D1

to be the "new passcode generator" of features (f) and (g).

However, the applicant stated in advance of the oral proceedings before the examining division that the examining division "overlooked that the main request, claim 1 line 22 defines **'a new passcode generator'**". It is nonetheless not apparent from the file that the examining division mapped the "new passcode generator" onto D1 before issuing the decision under appeal. This is in spite of the applicant explicitly addressing this aspect also during the oral proceedings before the examining division, as can be gathered from the third sentence of point 5 of the minutes of these oral proceedings.

3.3.6 The board may only conclude, in view of

- the various instances at which the analysis of the examining division conducted in point 7 of the reasons of the decision under appeal **presented the applicant with a feature mapping that was never communicated beforehand to the applicant**

and

- the **inconsistency of this feature mapping** as set out in point 3.3.4 above,

that the applicant could have reasonably been expected to put forward possibly persuasive arguments as to the respective feature mapping, had the examining division informed the applicant of its feature mapping before issuing the decision under appeal. In this context, the board recalls that Article 113(1) EPC requires not merely that a party be given an opportunity to voice comments, but more importantly it requires that the deciding instance demonstrably hears and considers these comments (see e.g. T 763/04, Reasons 4.4).

3.3.7 Moreover, **the examining division failed to correct the erratic and imprecise way in which it was conducting the examination proceedings, although the applicant pointed towards this conduct at several points in time during the proceedings**. The board notes in particular the following:

3.3.7.1 Ahead of the oral proceedings before the examining division, the applicant insisted on a proper novelty analysis and even requested a postponement of the oral proceedings to allow the examining division to get more familiar with the case. **For whatever reasons, the examining division did not grant this request for postponement and only provided a detailed feature mapping of claim 1 with respect to D1 when issuing the decision under appeal**.

3.3.7.2 Points 3, 5 and 8 of the **minutes of the oral proceedings before the examining division reflect that the applicant was plainly in need of more details on the novelty objection raised by the examining division**. It is **not apparent** from these minutes, in particular not from points 4 and 9, that the **feature mapping as presented in the decision under appeal was brought to the applicant's attention during the oral proceedings** before the examining division.

3.3.7.3 Lastly, the examining division also did not rectify the decision under appeal by means of an interlocutory revision (Article 109(1) EPC), although the appellant had drawn their attention in the statement of grounds of appeal to several deficient aspects of the decision under appeal.

3.4 In sum, it is the board's view that **the appellant's right to be heard under Article 113(1) EPC was violated** in the proceedings before the examining division.

T 2522/16 () of 25.3.2021

European Case Law Identifier: ECLI:EP:BA:2021:T252216.20210325

Manufacturing collaboration hub data exchange interface

Inventive step - (no)
Inventive step - auxiliary request (no)
Inventive step - mixture of technical and non-technical features

Application number: 08425796.3
IPC class: G06Q 10/00
Applicant name: Accenture Global Services Limited

Cited decisions: G 0003/08, G 0001/19, T 0769/92, T 0641/00, T 1670/07, T 1463/11, T 2049/12, T 0731/17

Board: 3.4.03

https://www.epo.org/law-practice/case-law-appeals/pdf/t162522eu1.pdf

2. The application

The application is directed at a virtual manufacturing network (VMN). The manufacturing processes of multiple geographically separated logistics plants are to be controlled and monitored (paragraph [30] of the published application), for instance **in view of stringent regulation** associated with pharmaceutical and processed food products (paragraphs [1] and [2] of the published application). For example, the application aims at improving and identifying alternatives to the cumbersome manual processes employed to compile batch records during production (paragraph [3] of the published application).

The **ultimate aim of the invention is an improved business administration process**, in particular **involving rules and regulations for pharmaceutical products** (see further paragraphs [4] to [6] of the published application).

For this purpose, information selected according to predefined criteria is kept consistent across different logistics plants. Data selected according to predefined criteria is copied, in a distributed or networked computer system, between local computers and a central computer, these computers being connected to each other through interfaces.

The application thus comprises a mix of technical and non-technical features.

3. Main request (see point VII.(a) above)

…

3.2 Claim 1

When applying the Comvik approach, the features of a claim providing a technical effect have to be identified. The appellant submitted that features f1 to f6 of claim 1 of the main request achieved the three effects i) to iii) as defined under point VII.(a) above. The appellant further submitted that these effects were technical.

3.2.1 Effect i), data consistency

A process for **achieving consistency of manufacturing information across different locations does per se not solve a technical problem, but merely fulfills a business administration aim**. Such a non-technical process includes specifying the information which is to be kept consistent, or, in the words of claim 1, specifying the data which are to be synchronized.

The process to achieve data consistency / synchronization according to claim 1 is implemented using a networked information system such as the one referred to in features f1 and f2, in accordance with the submissions of the appellant.

The Board does not doubt that particular technical problems may arise when a process for achieving a business administration aim is to be implemented using a networked information system. However, no such problem is apparent from claim 1, nor is such a problem mentioned anywhere else in the application. Instead, claim 1 does not go beyond requiring that certain data (as specified by the "material master views definition" and its elements) are to be synchronized in such a system, i. e. made available at certain locations of such a system. This requirement corresponds to the **mere wish to have access to certain data at certain locations of such a system, which, in accordance with the appellant's submissions, was something the notional business person might indicate to the technically skilled person**.

Thereby, the **technical aspects of effect i) do not go beyond the commonly known effects** arising whenever a generally known networked information system is used to receive, store, process and send information or, in computer terminology, data.

3.3 Effect ii), centralized control

The **centralized control of plants mentioned in the application (see paragraph [30]) does not relate to any technical industrial control system at production process level** in the form of, e. g., a supervisory control and data acquisition (SCADA) system or a distributed control system (DCS).

Instead, the invention according to claim 1 only provides a central memory storing the "material master views definition" data structure as defined in feature f3. The functionality of this data structure with its elements "material master view identi-fier", "network relevance

identifier" and "data copy flag" is limited to specifying which information is to be kept consistent.

The centralized control achieved by the present invention is thereby limited to a centralized specification of the information which is to be kept consistent, or, in the words of claim 1, of the data which are to be synchronized. **Such a centralized specification is, however, a necessary part of the administrative process to achieve the business administration aim** of keeping certain manufacturing information consistent.

The "material master views definition" data structure with its elements and functionality thereby only concerns the nature of the data processed in the business context in which the invention is applied.

It does not concern any further technical considerations beyond merely finding a computer algorithm necessary in the context of the implementation of the data processing in relation to the administrative process.

It is **therefore not based on "technical considerations"** in the sense in which, according to the understanding of the Board, this expression mentioned in T 0769/92 was analyzed in decision G 01/19 (last sentence of point 126) and in opinion G 03/08 (last sentences, respectively, of points 13.5 and 13.5.1), contrary to the submissions of the appellant.

The Board notes that the "data copy flag" merely represents a "Yes" or a "No", as apparent from Table 7. That is, this term only reflects an indication whether or not particular information / data is to be kept consistent / synchronized / copied. It does not indicate any further technical considerations in the present context, either, contrary to the submission of the appellant.

It follows from the above that the "material master views definition" data structure, its elements and its functionality are not based on any further technical considerations, do not produce a technical effect and thereby have no technical character, in line with what was set out in point 5.8 of T 2049/12. Instead, they represent pure business matter.

Thus, the only technical aspect of the "material master views definition" as defined in feature f3 is that it is stored in a memory of a networked information system.

Thereby, the technical aspects of effect ii) do not go beyond the commonly known effects arising whenever a generally known conventional networked information system is used to receive, store, process and send data.

3.4 Effect iii), efficient data exchange by mirroring and converting relevant data

The "data conversion specifier" referred to in feature f5 relates to specifying which data are to be converted upon synchronization, or, in the words of the description, when being "copied" (see Table 8). The conversion may be as basic as leaving the data unchanged or transforming it to a blank data entry in accordance with the administrative needs. **The "data conversion specifier" has therefore a similar functionality as the "material master views definition" and hence represents, like the latter, pure business matter.**

The technical aspects of the "mirroring operation" defined in feature f4 and also mentioned in features f3 and f5 and of the "data conversion" during the mirroring operation referred to in feature f5 do not go beyond performing basic data transformation and copying certain data from one location in a network (the "logistics plant material master view") to another (the "mirrored material master view for the logistics plant material master view") by a processor as defined in feature f6.

However, copying data from one location to another using a processor and performing basic data transformations as appropriate are the very purpose of networked information systems and thereby implicitly disclosed in any such system.

The Board notes that this finding is not in contradiction to T 0731/17 cited by the appellant. In this decision, the Board did not consider that a network of general-purpose computers failed to disclose data access in general as alleged by the appellant. Instead, the Board concluded that the more specific concept of accessing information contained in a database store via a database server was not disclosed by a network of general-purpose computers (see point 6.4 of the Reasons). The wording of present claim 1, however, is more general than that and does not, for instance, mention any database server.

The other aspects of the "mirroring operation" and of the "data conversion" and thus of features f4, f5 and f6 **relate essentially only to the specification of which data are "relevant"** (in the words of the submission of the appellant) and in what form, i. e. which information / data is to be kept consistent / synchronized, as defined by the "material master views defini-tion" and the "data conversion specifier". These other aspects thus **represent pure business matter.**

Therefore, the technical aspects of effect iii) do not go beyond the commonly known effects arising whenever a generally known conventional networked information system is used to receive, store, process and send data.

3.5 Conclusion concerning technical effects / closest state of the art

In line with the Case Law of the Boards of Appeal mentioned by the appellant, it follows from the above that the technical aspects of effects i) to iii) referred to by the appellant do not go beyond commonly known effects arising whenever a conventional networked information system is used to receive, store, process and send data. The Board is not aware of any other technical effects provided by the features of claim 1 of the main request, either.

A conventional networked information systems as generally known at the filing date of the present application may therefore be regarded as representing the closest state of the art, in line with point 2.6 of the contested decision.

3.6 Inventive step

The subject-matter of claim 1 of the main request differs from such a conventional networked information system only by aspects relating to an administrative information exchange

process which do not provide a technical effect, as set out by the Examining Division (see points 2.3.1 to 2.3.10 of the Reasons).

Since the distinguishing aspects represent pure business matter, they can be included in a non-technical requirement specification given to the technically skilled person in line with what was set out in T 1463/11 (see point 13 of the Reasons).

Thus, it is not appropriate to formulate the objective technical problem as suggested by the appellant. Instead, the objective technical problem can be formulated as how to implement the administrative information exchange process as defined by the Examining Division in points 2.3.1 to 2.3.10 of the Reasons of the contested decision on a generally known conventional networked information system.

Such an implementation would have been a straightforward task for the technically skilled person.

The Board notes the appellant's argument (albeit in relation to the objective technical problem suggested by the appellant) that the technically skilled person would have had no incentive to arrive at the solution as defined in the invention and that they could also have provided a central database pulling all available data or, instead of a single Material Master Views Definition, a plurality of such definitions for different purposes.

However, providing a central database pulling all available data would in substance not amount to more than a straightforward implementation of the non-technical wish to have one location where all information is always accessible. In a similar manner, providing a plurality of "Master Material Views Definitions" would, in substance, not go beyond a straightforward implementation of the non-technical indication that the data which is to be kept consistent varies depending on their purpose.

That is, the appellant's propositions of what the technically skilled person could have done only relate to straightforward implementations of other non-technical requirement specifications than the administrative information exchange process as defined by the Examining Division in points 2.3.1 to 2.3.10 of the Reasons of the contested decision.

In view of the above, the subject-matter of claim 1 of the main request lacks inventive step within the meaning of Article 56 EPC.

T 1975/18 (Device discovery tool/FRESENIUS) of 23.4.2021

European Case Law Identifier: ECLI:EP:BA:2021:T197518.20210423

SYSTEM AND METHOD FOR PROVIDING DRUG LIBRARY DATA TO A MEDICAL DEVICE LOCATED WITHIN A HEALTHCARE ENVIRONMENT

Inventive step - (yes)

Application number: 14705805.1
IPC class: G06F19/00
Applicant name: Fresenius Vial SAS

Board: 3.5.05

https://www.epo.org/law-practice/case-law-appeals/pdf/t181975eu1.pdf

Claim 1 of the revised main request reads as follows:

"A system for providing drug library data to a medical device (31, 32) located in a hospital facility, the system comprising:

- a local network (33) of the hospital facility, and

- at least one medical device (31, 32) for administering a drug to a patient, the at least one medical device (31, 32) being located in the hospital facility and connected to the local network (33),

characterized by

a drug library server (1) connected to the local network (33) of the hospital facility via a public communication network (2) and constituted to provide drug library data to the at least one medical device (31, 32) via the public communication network (2), wherein the system comprises at least one communication device (40, 41) connected to the local network (33) and comprising a web client (400, 410) for communicating with the drug library server (1) via the public communication network (2), wherein the public communication network (2) is the internet and the drug library server (1) hosts a web server (10) configured to provide for a data communication with the web client (400, 410) of the at least one communication device (40, 41), wherein the drug library server (1) is constituted to provide a device discovery tool (411) to the at least one communication device (40, 41), the device discovery tool (411) being operative to gather information about the at least one medical device (31, 32) installed within the hospital facility, wherein the at least one communication device (40, 41) is operative to operate the device discovery tool (411) in the hospital facility to gather information about medical devices (31, 32) being installed in the hospital facility by scanning the local network (33) for medical devices (31, 32) connected to the local network (33) to identify network addresses of the medical devices (31, 32) in the local network (33), wherein the at least one communication device (40, 41) is operative to upload said information to the drug library server (1)."

3. Inventive step (Article 56 EPC)
…
3.3 These distinguishing features have the **technical effect** that, although the drug library server is in the internet domain whereas the medical devices are located in the local network of a hospital, the drug library server can obtain information about the network addresses of the medical devices within the hospital network.

3.4 The objective **technical problem** solved by this feature can thus be regarded as being how to provide a public drug library server with information on medical devices installed in the local network of a hospital facility.

3.5 The **solution** proposed in claim 1 is to provide a device discovery tool to a communication device connected to the local network which scans the network to obtain the network addresses of the medical devices installed in the local network and then uploads this information to the drug library server.

3.6 Since the drug library server in D1, namely the medication management unit (MMU), is not even a public server but located within the local network of the hospital facility, the problem formulated above would not arise in the context of D1. Nor would the claimed solution be obvious to the skilled person based on D1 alone. As the remaining documents on file are not relevant for seeking a solution to this problem, they would not suggest the claimed solution either.

T 2040/14 (Providing prepaid gift cards to devices with or without NFC … of 12.2.2021

European Case Law Identifier: ECLI:EP:BA:2021:T204014.20210212

METHODS, SYSTEMS AND COMPUTER READABLE MEDIA FOR ELECTRONICALLY DELIVERING A PREPAID CARD TO A MOBILE DEVICE

Inventive step - querying a dedicated server to determine whether a mobile device is NFC enabled (yes
Inventive step - no hint in prior art)

Application number: 09807223.4
IPC class: G06Q 40/00, G06Q 20/00
Applicant name: MasterCard International Incorporated
Cited decisions: T 1503/12

Board: 3.5.01

https://www.epo.org/law-practice/case-law-appeals/pdf/t142040eu1.pdf

Claim 1 reads:

A method for electronically delivering a prepaid card to a mobile device (114,116), the method comprising:

receiving, at a merchant server (108) from a sender device (102, 104, 106), purchase information related to the purchase of an electronic prepaid card, wherein the purchase information includes recipient information associated with a mobile device (114, 116) intended to receive the electronic prepaid card;

receiving, at an over the air (OTA) provisioning server (112) and from the merchant server (108), a provisioning request including electronic prepaid card information derived from the purchase information;

requesting, at the OTA provisioning server (112) and from a telecommunications operations server (110), the type of mobile device (114, 116) associated with the recipients mobile device number;

determining, using the mobile device type information provided by the telecommunications operations server (110), whether the mobile device (114, 116) is near field communications (NFC) enabled;

in response to determining that the mobile device (114,116) is NFC enabled:

establishing a communications link with a mobile device (114) associated with address data included in the electronic prepaid card information; and

provisioning the electronic prepaid card information on the mobile device (114) over the communications link via OTA communications, wherein the electronic prepaid card information includes personalization data that is used to generate a softcard prepaid card in the NFC enabled mobile device (114) and is transferrable from the mobile device (114) to a wireless device reader (118) via NFC; and

in response to determining that the mobile device (114,116) is not NFC enabled:

sending a prepaid card authorization code associated with the electronic prepaid card to a short message service (SMS) gateway (113); and

sending the prepaid card authorization code from the SMS gateway (113) to the non-NFC enabled mobile device (116).

1. The invention

The invention concerns a method to enable users, referred to as senders, to purchase prepaid gift cards for the benefit of other "recipient" users (see originally filed application, page 2, lines 4 to 9; page 4, lines 22 to 26). A recipient obtaining a gift card is entitled to purchase goods to the amount associated with the card (page 10, lines 25 to 30 and page 11, lines 17 to 23).

A sender purchases a prepaid gift card from a card issuer. The issuer's system then provides the recipient's mobile phone with either a digital card, referred to as a soft card, which enables automatic wireless payments over an NFC connection, or an authorisation code entitling the recipient to receive a physical plastic card (page 4, lines 27 to 31). The type of card depends

on whether the recipient's mobile phone has near field communication (NFC) capability or not (page 9, lines 9 to 14).

Looking at Figure 1, the functionality for purchasing and delivering prepaid gift cards is distributed among three servers: a merchant server 108, a telecommunications operations server 110 and an over-the-air server (OTA) provisioning server 112 (page 5, lines 15 to 17).

The merchant server hosts card generation functionality. Upon request, it provides to a sender's computer 104 a website to which the sender inputs information specifying a desired prepaid gift card including an amount of money to be placed on the card and a recipient's phone number (page 5, lines 1 to 10; page 12, lines 4 to 9). Based on this information, the merchant server generates prepaid card information including the card's number, its image, authorisation code and card personalisation information (page 8, lines 19 to 25; page 12, lines 18 to 25).

The OTA provisioning server is responsible for issuing soft cards and authorisation codes to recipients' mobile phones 114 and 116 (page 5, lines 24 to 29). The OTA provisioning server receives from the merchant server a request to issue a generated prepaid gift card. The request includes the recipient's mobile phone number and the prepaid card information (page 8, line 26 to 32 and page 12, line 26 to page 13, line 2). In order to determine whether a soft card or an authorisation code should be sent, the OTA provisioning server provides the telecommunications operations server with a recipient's mobile phone number and receives from it information indicating the mobile phone's type as NFC enabled or otherwise (page 9, lines 1 to 8). The telecommunications operations server, maintained by the wireless phone service provider, retrieves this information from a database associating mobile phone numbers with configuration information (page 9, lines 3 to 6).

If the recipient's mobile phone is not NFC enabled, the OTA provisioning server generates and sends it an SMS including a card authorisation code through an SMS gateway (page 13, lines 11 to 14). The recipient, having received the SMS, provides the authorisation code to a cashier at a point of sale. The cashier, having validated the code and the recipient's phone number, encodes the amount associated with the purchased gift card onto a plastic card and hands the plastic card over to the recipient who can subsequently use it for purchasing (page 11, lines 4 to 24).

If the mobile phone is NFC enabled, the OTA provisioning server establishes a secure connection with a prepaid card managing application, called wallet client, installed on the mobile phone and downloads soft card personalisation data, which is similar to Track 1 and Track 2 data of payment cards, onto the mobile phone (page 10, lines 4 to 11; page 14, lines 5 to 13).

3. Article 56 EPC, claim 1

3.1 For the purposes of assessing the disclosure of **D2** claim 1 boils down to the following:

A sender device sends information about the desired card to a merchant server;

The merchant server sends an OTA provisioning request to an OTA provisioning server;

The OTA provisioning server asks a telecommunications operations server whether the recipient's device is NFC enabled;

If so, the card is provisioned on the mobile device over a communication link;

If not, a card authorisation code is send via SMS.

3.2 It is common ground that document D2 is the closest prior art and discloses a system for providing soft cards to mobile devices enabling wireless payments over an NFC connection.

3.3 The examining division considered that claim 1 differed from the embodiment shown in Figure 2 of D2 by (using their numbering at point 1 of the decision):

i/ii) The use of a merchant server;

iii) A telecommunications server determines whether the recipient's device is NFC enabled;

iv) The provisioning over the communication link is in response to determining that the device is NFC enabled;

v/vi/vii) Sending a card authorisation via SMS if the device is not NFC enabled;

viii) Receiving the purchase information from a sender device.

The division considered that the technical aspects of using SMS technology were commonplace. The remaining differences, in particular the use of a separate sender device, were considered to be obvious implementations of business-driven non-technical aspects.

3.4 In appeal, the Board considered that using separate sender and recipient devices was not just an incidental feature, but an **essential feature of the invention** which **should be considered when determining the starting point for inventive step**. Thus the Board preferred to start from the embodiment in D2 relating to WAP push provisioning of prepaid cards which deploys separate sender and recipient devices.

According to this embodiment, a user wishing to obtain a soft card corresponding to his plastic prepaid card, calls the card issuer by phone and provides a mobile phone number and the plastic card data ([57]). After validating the user's credentials, a provisioning issuer server, corresponding to the OTA server in claim 1, sends a WAP push message to the mobile phone ([59]). Having received the message, the mobile phone starts a provisioning and payment application installed on it ([59]). This application establishes a secure connection to the provisioning issuer server and the server downloads the soft card data to the mobile phone ([60] and [61]).

Starting from this embodiment, the sender device (feature viii, above) is no longer a distinguishing feature.

3.5 The Board judges that the background to this invention, namely that **a delivered card is requested by one user for the benefit of another user, is a business aspect** which is according to the COMVIK approach given to the skilled person **as a non-technical requirement specification** within the framework of the above objective technical problem.

It is probably also true that recognising that providing prepaid soft card personalisation data to mobile phones that can use it and providing authorisation codes to ones that cannot is also a non-technical aspect. This is in effect the situation in T 1503/12; granny would not send her grandson a Ybox game for his Xbox console - see points 4.6 and 4.7.

Thus, the technical problem is to implement the dual provisioning process on a user's mobile phone.

3.6 Although the Board considers that the second embodiment of D2 is a better starting point, in the end it does not really matter which embodiment one starts from. The **Board agrees with the appellant and judges that the solutions of adapting D2 to use a telecommunications operations server to determine whether a mobile device is NFC enabled (feature iii, above) and to send a card authorisation via SMS if the device is not NFC enabled (features v/vi/vii, above) are not obvious over either embodiment**.

3.7 It might well be obvious to check whether a mobile phone is NFC enabled in order to decide whether the soft card personalisation data or the card authorisation code should be provided.

However, the Board agrees with the appellant that the obvious solution would be to obtain this information from the provisioning and payment application which, if not already present, would need to be installed on the mobile phone. In fact, using this application for provisioning card data is the key aspect of D2's teaching ([11] and [23]).

3.8 The Board also agrees with the appellant that while D2 discloses a provisioning configuration server, storing configuration information for multiple card issuers ([26]), and implicitly that the push proxy gateway is used (see D12, points 5 and 6), there is no hint to adapt any of these servers to provide upon request information on whether a mobile phone is NFC enabled.

D2 discloses that the provisioning and payment application communicates with the provisioning configuration server to verify whether the mobile phone is authorised for obtaining soft card data ([42]). The Board agrees, however, with the appellant's reading of D2 and accepts that this step does not involve obtaining from the server information on the phone's hardware capabilities; the only information obtained is an indication that the phone was authorised for receiving soft card data.

Also, the general teaching in D12 that the push proxy gateway may be queried for capabilities of WAP clients (sections 6.6. and 7.2.6), is not a strong enough hint to obtain from the push gateway specific information concerning the phone's NFC capability.

3.9 As for providing the card authorisation code in an SMS, the Board judges that the skilled person would rather provide the code using the provisioning and payment application installed on the mobile phone in the NFC capability determination stage.

The Board considers that **providing sensitive card data in an SMS instead of downloading it securely using the provisioning and payment application runs against the key teaching of D2 and the skilled person would not do it without a hint in prior art**. However, D2 does not give such a hint and actually **teaches away from the claimed solution**. Paragraph [23] states that the provisioning and payment application's payment functionality is actually not essential for the disclosed subject-matter which rather relates to its provisioning functionality. The skilled person would derive from this that the authorisation code should be downloaded using the provisioning and payment application, even if it cannot be used for wireless payments.

4. For these reasons, the Board judges that the subject-matter of claim 1 involves an inventive step.

T 1420/16 () of 19.4.2021

European Case Law Identifier: ECLI:EP:BA:2021:T142016.20210419

TRANSACTION PROCESSING SYSTEM AND METHOD

Amendments - main request and first auxiliary request
Amendments - added subject-matter (yes)
Late-filed request - admitted (yes)
Inventive step - fourth auxiliary request (yes)

Application number: 10858489.7
IPC class: G06Q 30/00, G06Q 40/00, H04L 12/24
Applicant name: Ent. Services Development Corporation LP

Cited decisions: T 1212/08, T 1108/10, T 0273/11

Board: 3.4.03

https://www.epo.org/law-practice/case-law-appeals/pdf/t161420eu1.pdf

Claim 1 according to the **main request** has the following wording (Board's labelling):

A transaction processing system comprising:

(a) a transaction analyzer for determining characteristics of a received electronic transaction;

(b) a processing agent selector for selecting, based on the determined characteristics, a processing agent for processing the received electronic transaction,

(b1) the processing agent describing or defining a set of processing operations to be performed by a computing device;

(c) a dispatcher for dispatching the received electronic transaction and the selected processing agent to a processing resource to cause the electronic transaction to be processed in accordance with the selected processing agent on the processing resource,

(c1) the dispatcher to access the processing resource over a network.

Claim 1 according to the **fourth auxiliary request** has the following wording:

A transaction processing system comprising:

a transaction manager; and

a set of processing resources;

the transaction manager comprising:

a transaction analyzer for determining characteristics of a received electronic transaction;

a processing agent selector for selecting, based on the determined characteristics, a processing agent from a library of predetermined processing agents, the processing agent for processing the received electronic transaction, the processing agent being a software application, software agent, intelligent software agent, computer program or applet;

a dispatcher for dispatching the received electronic transaction and the selected processing agent to a processing resource in the set of processing resources to cause the electronic transaction to be processed in accordance with the selected processing agent on the processing resource, wherein:

the dispatcher is configured to access the processing resource over a network; and

the dispatcher is configured to determine a processing load of at least some of the set of processing resources; and send the combined processing agent and electronic transaction to a processing resource having a determined processing load below a predetermined threshold level.

2. The invention

The present invention concerns the processing of electronic transactions using a network and a plurality of processing resources. An electronic transaction may include, for example, a financial transaction, such as a money transfer or withdrawal, a billing transaction, a database transaction, a shopping transaction, and so on, see paragraph [0001] of the application.

A transaction processing system comprises a transaction manager and a set of processing resources (e. g. laptops or desktop computers). After having received an electronic transaction e. g. from a client computer via a network, the transaction manager determines characteristics of the electronic transaction and selects a processing agent suitable to process the electronic transaction e. g. from a library of processing agents. Both the selected processing agent and the received electronic transaction are sent in a bundle over a network to a processing resource selected based on its processing load being below a predetermined threshold level, see paragraphs [0024], [0046] and [0059].

Main request

3. Added-subject matter - Article 123(2) EPC

3.1 Claim 1 according to the main request differs from claim 1 as originally filed essentially by features (b1) and (c1) and in that the transaction is qualified as an "electronic transaction".

3.2 The qualification of a transaction as an "electronic transaction" as well as feature (b1) find their basis in the application as originally filed, see paragraphs [0015] and [0018].

3.3 As regards features (c) and (c1) in claim 1, the appellant indicated paragraph [0059] as a basis.

Paragraph [0059] states that processing resources are "accessible" over a network. From paragraphs [0047] and [0048], the Board understands that this access might be used e. g. for soliciting the use of other processing resources or for using or accessing external resources. Paragraph [0059] alone does not disclose that the dispatcher according to claim 1 accesses a processing resource "over a network".

…

…, the Board is of the view that, according to the application as originally filed, a network according to feature (c1) necessarily implies multiple processing resources, from which one is selected in view of its low processing load as described in paragraphs [0022], [0024] and [0046], and that the combined determined or selected processing agent and received electronic transaction are dispatched to the selected processing resource on the basis of this criterion.

The appellant's argument (see point V.(a), first paragraph, above) that a dispatcher sending data to one processing resource corresponds to a dispatcher sending data to one of a set of processing resources is not persuasive, because in the Board's view the dispatcher disclosed in the embodiment of paragraph [0024] performs a selection of said one processing resource based on its processing load, whereas the claimed dispatcher does not and is not configured to perform any selection. Although - as pointed out by the appellant - paragraph [0020] does not mention said selection step, once a network for accessing a plurality of processing resources is used, the dispatcher has to select from among them a processing resource to process the electronic transaction, see paragraph [0024], said selection being based on the processing resource's processing load.

As claim 1 merely **requires one single processing resource** (see feature (c)) and thus **does not include any step of selecting one** of a set of processing resources based on its low processing load, the requirements of Article 123(2) EPC are not fulfilled for claim 1.

Fourth auxiliary request

7. Admission - Articles 13(2) and 25(3) RPBA 2020

The set of claims according to the fourth auxiliary request was filed during oral proceedings after the general discussion with the Board about the higher-ranking requests. The Board accepted that the amendments made to the fourth auxiliary request overcame all issues raised in the Board's communication for the first time and discussed during oral proceedings so that the fourth auxiliary request constituted patentable matter. Although it would have been preferable for the appellant to file the fourth auxiliary request already prior to the oral proceedings (e. g. with the letter dated 19 March 2021), the Board takes the view that filing a set of claims which obviously overcomes all outstanding objections and thus meets the requirements of the EPC - even when filed during the oral proceedings - represent special circumstances that give the Board a discretion to take into account said claims.

The Board therefore exercised its discretion under Articles 13(2) and 25(3) RPBA 2020 in admitting the fourth auxiliary request into the proceedings.

8. Basis in the original application - Article 123(2) EPC

The Board is satisfied that original claims 1, 2, 13 and 14 together with paragraphs [0015], [0018], [0020], [0021], [0024], [0046], [0059] provide a basis for amended device claim 1. Similarly, method claim 8 finds its basis in original claims 11 to 14 and the paragraphs mentioned before.

9. Inventive step - Article 56 EPC

9.1 The examining division held that claim 11 of the first auxiliary request underlying the decision is directed to an administrative scheme representing an abstract plan for processing a transaction implemented on electronic means. The objective technical problem was therefore to automate the method described above, which was solved in an obvious way by using a notorious computer. The examining division concluded that the subject-matter of the independent claims of this request did not involve an inventive step.

9.2 The Board shares the appellant's view that dis**patching a transaction along with a processing agent for processing the transaction to a processing resource via a network is not part of the normal operation of a general purpose computer**. Moreover, distributing the processing load over a plurality of processing resources (e. g. the pre-existing internal network of a company) by sending both the electronic transaction and the required centrally stored software (i. e. processing agent) to a selected processing resource (e. g. a computer) **relates to decisions on where the processing is to be done, where the software is to be stored etc., which are the province of an engineer, not a business person**.

In the Board's view, in this case, document D1 is more suitable as the closest prior art than a notoriously known general purpose computer.

9.3 D1 concerns a system 100 for processing taxable financial transactions 11 received from subscriber servers 50 via the internet 20, see paragraphs [0052] or [0060], "receiving a tax computation transaction request from subscriber server 50". The system comprises a load balancing and scalability system 70 that detects the current data load or volume entering the system and, if appropriate, redirects the destination of data transfer for optimum system operation and management, see paragraphs [0059] and [0063]. The load balancing and scalability system 70 directs the data related to the financial transaction to the primary/host servers or to the secondary/standby servers, see figures 1, 1A or 2, paragraphs [0072] to [0074]. Either the primary or the secondary servers then process the financial transaction using appropriate software (i. e. a processing agent).

In D1, a processing agent is thus selected in the processing resource itself and "combined" with the electronic transaction, when the processing by the processing resource takes place. **Only the electronic transaction is dispatched**, the software for processing a transaction is locally stored on each of the respective processing resources responsible for processing the transactions.

9.4 Hence, the Board agrees with the appellant that the subject-matter of claim 1 differs from D1 by a processing agent selector for selecting, based on the determined characteristics, a processing agent from a library of predetermined processing agents and by a dispatcher for dispatching the received electronic transaction and the selected processing agent to a processing resource in the set of processing resources to cause the electronic transaction to be processed in accordance with the selected processing agent on the processing resource.

9.5 The Board accepts the appellant's argument that storing predetermined processing agents in a library and dispatching the required processing agent in a bundle with an electronic transaction to an processing resource **avoids the need to provide a version of the software on each computer device of the network so that memory space is saved**, which provides an improvement in the computer system's functioning. A further advantage is that the **processing agents can be updated centrally**. An additional effect might be the **increase of security**, as described in paragraph [0062] of the application.

9.6 A skilled person, wishing to reduce storage space, would find no hint in the prior art considered in the examination proceedings to modify the system of D1 so as to arrive at the claimed invention. Thus, an **inventive step (Article 56 EPC) is acknowledged** for the transaction processing system of claim 1 and, by analogous reasoning, for the method of processing an electronic transaction of claim 8.

T 2366/18 (Notification feed across multiple client devices/DROPBOX) of 16.3.2021

European Case Law Identifier: ECLI:EP:BA:2021:T236618.20210316

Notification feed across multiple client devices

Inventive step - all requests (no)

Application number: 13818558.2
IPC class: G06F 17/30, G06Q 10/06
Applicant name: Dropbox, Inc.

Cited decisions: G 0003/08, T 0003/90, T 0049/99, T 0154/04, T 2330/13, T 1924/17

Board: 3.5.07

https://www.epo.org/law-practice/case-law-appeals/pdf/t182366eu1.pdf

The invention

2. The application relates to providing notifications from online content management services to multiple client devices (description, paragraph [0001]).

In its background section, the application explains that online content management services allow users to access and manage content across multiple devices using the internet. For example, online content management services may allow a user to store content items (including but not limited to text documents, email messages, text messages, other types of messages, media files such as photos, videos and audio files, and/or folders containing multiple files) and to selectively allow other users to access the content items. Content items can be stored in a master repository maintained by the service provider and mirrored to or synchronised with local copies on various user devices. Users may also be able to receive updates based on other users' activity; for instance, in a social network, status updates or other content items posted by one user can be propagated to other users who have indicated interest in receiving them (description, paragraph [0002]). **A problem is keeping all of a user's clients (such as mobile device applications, desktop applications and web browsers) synchronised** (description, paragraph [0003]).

3. The application proposes a method for providing event notifications across a user's multiple client devices. A notification feed can include a stream or sequence of messages reporting the occurrence of various events, such as when the user is invited to join a shared content repository or group, when the user accepts (or declines) such an invitation, or when activities involving the user's account are detected (e.g. changes to security settings such as a password, billing errors, exceeding a quota, or the like). If a user takes action on one device, notifications on all its devices can be updated to reflect the action (description, paragraph [0004]).

The notification feed can be a flexible feed, with notification information that is presented to the user being updated approximately in real time to reflect the current status, e.g. by

replacing obsolete information with current information as new events occur. In some embodiments, a flexible feed can be implemented by structuring each notification to include a topic identifier, as well as sequencing information and content. Given a list of notifications, the server and/or a client can use the topic identifier to identify multiple notifications that pertain to the same topic. Where multiple notifications include the same topic, a client can use the temporal sequencing information to determine which notifications should be presented as alerts to the user; for example, older notifications can be hidden from the user. In some embodiments, the server can use the temporal information to determine that certain notifications need not be sent to a particular client, e.g. in cases where a notification that has not yet been sent has already been superseded by a subsequent event (description, paragraphs [0005] and [0079] to [0098]; Figures 7 to 9).

5. Inventive step over the acknowledged prior art

5.1 In its communication, the board also assessed inventive step using the background art mentioned in the application (description, paragraphs [0002] and [0003]) as the starting point.

5.2 The background art described in paragraph [0002] discloses features F1 and F2 ("status updates or other content items posted by one user can be propagated to other users who have indicated interest in receiving them"). Moreover, this background art also discloses aspects of feature F3, namely "retrieving, by the server from a notifications data store, an initial set of notification records responsive to the request, wherein each notification record in the initial set corresponds to an event". The board considers it to be implicitly disclosed in the background art that the online content service is implemented as a server, and construes the user's devices to be clients that are subscribed to receive updates. It was also known from the background art for the server to send a notification to a client device, i.e. part of feature F5.

5.3 The claimed invention therefore differs from the method disclosed in the background art in that it includes features F4, F4a, F4b and the following features F3' and F5':

F3' wherein each notification record includes a respective topic field including information indicating the subject-matter of the notification record, a respective sequence field including a temporal order indicator, and a respective content field;

F5' the information sent to the client is the consolidated set of notification records.

5.4 The appellant argued that the distinguishing features contributed to the technical character and solved the objective technical problem of how to provide an event notifications feed with increased efficiency. Among other things, it argued that sending the consolidated set of records instead of all records saved bandwidth and that comparing topic fields was computationally more efficient than comparing the content fields. In particular, introducing the topic field avoided having to compare the full content of the notifications and thus permitted more efficient operation. Without the topic field, notification records could not carry any summary of a topic field, so the newly introduced topic field made efficient comparisons possible.

5.5 The **board does not acknowledge the alleged effect of increased efficiency.**

The board does **not consider the alleged bandwidth savings to be a result of "further technical considerations"** (see opinion G 3/08, OJ EPO 2011, 10, Reasons 13.5 and 13.5.1). The decision to send only the most recent notification records is a non-technical consideration that is related not to the internal operation of the distributed computer system but **to the client's perceived information need**. The board thus does not consider this effect to be technical (see decision T 1924/17 of 29 July 2019, Reasons 21).

As to the alleged improved efficiency due to comparing topic fields instead of content fields, the board sees **no "further technical considerations"** here either. According to decision T 1924/17, Reasons 21.2, it has to be considered whether an improvement in the processing speed is based on "further technical considerations", i.e. technical considerations going beyond the abstract formulation of algorithms or beyond "merely" finding a computer algorithm to carry out some procedure. Such "further technical considerations" may relate to the specific internal functioning of the computer as a technical system. However, the **introduction of the topic field is on an algorithmic level and not based on "further technical considerations" within the above meaning**. Consequently, the board is not convinced that the alleged effect of improved efficiency is technical.

5.6 As the **distinguishing features do not contribute to a technical effect, they are not included in the assessment of inventive step** (see decision T 154/04, OJ EPO 2008, 46, point 5 (F) of the Reasons: "Non-technical features, to the extent that they do not interact with the technical subject matter of the claim for solving a technical problem, i.e. non-technical features 'as such', do not provide a technical contribution to the prior art and are thus ignored in assessing novelty and inventive step.").

5.7 In view of the above, the subject-matter of claim 1 of the main request lacks an inventive step (Article 56 EPC).

T 0189/19 (Ranking semi-structured documents/MICROSOFT TECHNOLOGY LICENSING) of 10.3.2021

European Case Law Identifier: ECLI:EP:BA:2021:T018919.20210310

Utilization of features extracted from structured documents to improve search relevance

Inventive step - main request (no)

Application number: 12817909.0
IPC class: G06F 17/30
Applicant name: Microsoft Technology Licensing, LLC

Cited decisions: T 1816/11, T 1159/13, T 2343/13, T 0336/14

Board: 3.5.07

https://www.epo.org/law-practice/case-law-appeals/pdf/t190189eu1.pdf

Main request

3. The board's interpretation of claim 1

3.1 Claim 1 of the main request is directed to a method of outputting a ranked list of documents in response to a search query.

3.2 First, a general-purpose search engine receives the query from a user and generates a ranked list of search results retrieved from a plurality of documents indexed by the search engine. The plurality of documents comprises a plurality of semi-structured web pages.

3.3 Generating the ranked list of search results involves positioning at least one retrieved semi-structured web page at a particular position in the ranked list. This position is determined, at least in part, on the basis of the value of a "feature" at a predetermined location in the web page, whereby no account is being taken of any correlation between the feature's value and the query's content.

3.4 The ranked list is output by a processor to the user.

3.5 The claim further includes the feature "automatically extracting features from the plurality of semi-structured web pages" and specifies that "the feature is automatically extracted from the at least semi-structured web page at the predetermined location". Since the claim also refers to "a value of a feature that is extracted at a predetermined location", the skilled person reading the claim understands that what is (automatically) extracted are the values of features.

4. Inventive step

4.1 Document D1 relates to extracting attributes from web pages (see abstract). It describes, in paragraphs [0079] to [0082], an internet search engine that crawls the World Wide Web to index web pages. For pages that include job descriptions, information such as job title, job location and required experience is extracted from the page and used to index the page in the search index. This information is extracted with the help of extraction templates.

4.2 Extraction templates are automatically created from training documents by a process described in paragraphs [0083] to [0159] (see in particular paragraphs [0083] to [0086]). The extraction templates include information on the location of features ("attributes") in a document's DOM tree, which is used to automatically extract the feature's value (paragraphs [0160] to [0163]).

4.3 Web pages matching a particular extraction template are "semi-structured" web pages within the meaning of the present application (see point 1.2 above).

4.4 Document D1 further discloses, in paragraph [0011], that the search engine interface of a search engine allows users to specify a search query by means of keywords and, in response to the query, displays the search results to the user, typically as a ranked list.

4.5 Hence, the **subject-matter of claim 1 differs from the disclosure of document D1 in that the position of a semi-structured web page in the ranked list of documents is based, at least in part, on the value of a feature of the document, whereby no account is being taken of any correlation between the feature's value and the query's content**.

4.6 The appellant argued that this distinguishing feature led to more accurate search results when a database of documents was searched. Since accessing and searching databases was commonly considered to be a technical problem, more accurate search results represented a technical effect.

4.7 The board will leave aside the question whether the distinguishing feature, which specifies neither what kind of feature value is being taken into account nor how the value affects the ranking of a web page, plausibly improves the accuracy of search results over the whole scope of the claim and will focus instead on the specific example described in paragraph [0007] of the application, which suggests that a web page that contains a greater number of positive reviews may be positioned in the search results above a web page that contains fewer positive reviews or more negative reviews. **Although the board is willing to accept that this leads to search results which are more relevant to the typical user, this relates to the subjective appreciation of the cognitive content of the search results and is not a technical improvement.** Indeed, the insight that a greater number of positive reviews indicates a greater relevance to the user **is not one that belongs to a technical field**.

4.8 The appellant also argued that the invention involved a continued and guided human-machine interaction process, which was technical according to decision T 336/14.

However, the **distinguishing feature does not relate to human-machine interaction**. Any human-machine interaction specified in the claim is already present in document D1.

4.9 Hence, the board does not agree with the appellant that the distinguishing feature achieves a technical effect. The problem to be solved may therefore be formulated as how to modify the disclosure of document D1 so as to base the position of a semi-structured web page in the ranked list of documents, at least in part, on the value of a document feature which has no correlation with the query's content. Since document D1 already discloses extracting values of document features, this problem a**mounts to a straightforward and thus obvious programming exercise for the skilled person**.

4.10 Hence, the subject-matter of claim 1 lacks inventive step (Article 56 EPC).

T 2825/19 (Natural language to machine language translator/RAVENFLOW) of 19.3.2021

European Case Law Identifier: ECLI:EP:BA:2021:T282519.20210319

Computer system with natural language to machine language translator

Inventive step - (no)

Application number: 02732949.9
IPC class: G06F 17/27
Applicant name: Ravenflow, Inc.

Cited decisions: G 0003/08, G 0001/19, G 0003/19, T 0236/91, T 0769/92, T 1173/97, T 1177/97, T 0641/00, T 0154/04, T 1539/09, T 0598/14

Board: 3.5.07

Catchwords: *Assessment of technicality of programs for computers: "further technical considerations" in the sense of opinion*

https://www.epo.org/law-practice/case-law-appeals/pdf/t192825eu1.pdf

The invention

1. The application relates to a system and method which translates natural (human) language into an abstract formal language. This formal language is explicitly designed to serve as a universal template for further translations into a comprehensive variety of machine languages which are executable in specific operational environments (description as originally filed, page 1, first paragraph).

In essence, the invention translates natural language input into internal formal language expressions and then further translates these expressions into executable formal expressions in a formal language such as SQL (structured query language) or SMTPL (the language of the mail protocol SMTP) (see description as originally filed, page 34, last paragraph).

Inventive step

3. The contested decision

In its decision, the examining division relied on document D4 as the starting point for assessing inventive step. The examining division first analysed the software system of claim 1 to identify technical and non-technical features when considering the features in isolation. It identified only a software system, a programmable device, a processing means, input means, a lexicon and a text parser as a technical means. The non-technical features did not contribute to the technical character of the invention as their purpose was **to translate natural language text input into a formal representation, which was a non-technical purpose**. The

underlying **algorithm had to be provided by the non-technical linguist** to the qualified skilled person in charge of its technical implementation.

According to the examining division (see communication of 13 November 2018, point 4), referring to decisions T 598/14 and T 1177/97, the translation of linguistic considerations into a mathematical model with the aim of enabling the linguistic analysis to be done automatically by a computer could be seen as involving, at least implicitly, technical considerations. However, according to opinion G 3/08 (OJ EPO 2011, 10), point 13.5 of the Reasons, this was not enough as the technical character would have to be established on the basis that those considerations constituted "further technical considerations". Moreover, machine-executable instructions per se were not technical as computer programs as such were explicitly excluded from patentability (Article 52(2)(c) EPC).

The examining division argued that, when starting from document D4, the only identifiable technical contribution consisted in the claimed implementation of the non-technical features in the system disclosed in document D4. However, this implementation would have been straightforward for the skilled person. Hence, the subject-matter of claim 1 and the corresponding subject-matter of claim 5 lacked inventive step (Article 56 EPC).

4. The appellant's arguments

The appellant argued that the amended claims of the new main request did not change the appellant's case with respect to inventive step. The crux of the examining division's reasoning was that most features of claim 1 were non-technical linguistic features that did not contribute to the technical character of the invention. The appellant disagreed with the examining division stating that the claimed invention had the same ultimate purpose as the invention in T 236/91, i.e. inputting a command executable by a computer. It was true that the decision T 236/91 preceded opinion G 3/08, which did not, however, redraw the boundary between "technical" and "non-technical" subject-matter. Indeed, the Enlarged Board of Appeal avoided defining the term "technical", and thus deliberately refrained from re-drawing the boundary between "technical" and "non-technical" subject-matter (see G 3/08, Reasons 9.2).

Moreover, the appellant cited decision T 1177/97, arguing that nothing in the wording of claim 1 could fairly be said to "reflect only peculiarities of the field of linguistics". Hence, the cited decision supported the appellant's position that all features of claim 1 had a technical character and could support the presence of an inventive step.

The objective technical problem was to provide an alternative implementation to that described by D4. This alternative implementation involved so many technical differences that the skilled person could not have arrived at the claimed subject-matter in an obvious manner.

Furthermore, the appellant argued that linguistics was not concerned with translating expressions in an internal formal language into equivalent formal expressions executable in an external operational environment. Rather, steps b) to r) of the claimed method defined a technically advantageous method of translating natural language to executable formal expressions via an abstract formal language. This abstract formal language was explicitly designed to serve as a universal template for further translations into a comprehensive variety of machine languages which were executable in specific operational environments. This was

evidence that the steps involved further technical considerations. The method of claim 5 did not use the computer merely as a tool for implementation but focused on improving the computer functionality itself.

5. The board's assessment of inventive step

5.1 The board agrees with the examining division that most features of independent claim 5 do not contribute to the technical character of the invention.

The steps of the method of claim 5 can be grouped with respect to their functionality as follows:

- Step a) specifies that natural language text is received.

- Steps b) to p) specify how the received natural language text is transformed into equivalent expressions in an internal formal language.

- Steps q) and r) specify that expressions of the internal formal language are translated into equivalent formal expressions executable in an external operational environment.

5.2 Step a) does not specify a particular manner of inputting text into a computer, such as audio (speech) or keyboard input. This step encompasses receiving a text file containing a requirement specification for a program, for example. Step a) is known from document D4 (abstract; claim 1; Figure 1: reference sign 1; column 4, lines 48 to 55), which is directed to converting an input natural language character string into a command language instruction for a computer program.

5.3 Steps b) to p) specify an algorithm for translating natural language text into expressions in an internal formal language.

5.3.1 Points 13.5 and 13.5.1 of the Reasons of opinion G 3/08 read as follows (emphasis added by the board):

…

5.3.2 The Enlarged Board of Appeal defined the expression "further technical considerations" by analogy to the expression "further technical effect" introduced in decision T 1173/97 (Computer program product/IBM, OJ EPO 1999, 609). That decision pointed out two cases in which the technical character of a computer program is supported. First, when a computer is used to solve a technical problem related to a technical field outside of computing such as control of industrial manufacturing processes. Second, when there is a "further technical effect" that solves a technical problem internal to the computer system (see Reasons, 6.4 and 6.5).

The view that the technical character of computer programs depends on the contribution to solve a technical problem appears to be confirmed by the following comment on the proposed amendment of Article 52(1) EPC in the Basic Proposal for the Revision of the EPC (document MR/2/00 e of the documentation on the EPC revision 2000, point 4, page 43),

which expressly states that the same considerations as for inventions in general apply for computer programs (underlining added by the board):

"[...] the point must be made that patent protection is reserved for creations in the technical field. This is now clearly expressed in the new wording of Article 52(1) EPC. In order to be patentable, the subject-matter claimed must therefore have a 'technical character' or to be more precise - involve a 'technical teaching', ie an **instruction addressed to a skilled person as to how to solve a particular technical problem using particular technical means**. It is on this understanding of the term 'invention' that the patent granting practice of the EPO and the jurisprudence of the Boards of Appeal are based. The **same considerations apply to the assessment of computer programs**."

5.3.3 In the current application, **the claimed subject-matter does not relate to a technical application outside computing** (the first case mentioned in decision T 1173/97). Thus, the program-related features of the claimed subject-matter **only have a technical character if they contribute to solve a technical problem internal to the computer system** (the second case mentioned in T 1173/97).

5.3.4 The appellant correctly argued that no final definition of the term "technical" has been given by the boards (see also opinion G 3/08, Reasons 9.2; decision G 1/19, Reasons 75 and 76).

5.3.5 However, the appellant's argument that opinion G 3/08 did not redraw the border between technical and non-technical aspects of computer programs is not convincing.

In particular, **the board considers that opinion G 3/08, when compared to decision T 1173/97, reframed the interpretation of technicality with respect to computer programs.** Decision T 1173/97, Reasons 7.3, cites the subject of decision T 769/92 as an example of an **invention which concerns the internal functioning of a computer** caused by the programs running on it. T 769/92 considered that **if technical considerations were required to arrive at the invention, sufficient technical character was lent to the invention** as claimed (T 769/92, Reasons 3.3, 3.6 and 3.7). However, opinion G 3/08, Reasons 13.5 and 13.5.1, **explicitly rejected the position adopted by decision T 769/92 that any technical considerations are sufficient to confer technical character on claimed subject-matter.**

Such a narrower interpretation of the term "technical" with respect to computer programs is a normal development for the interpretation of a legal provision open to interpretation (see opinion G 3/19 of 14 May 2020, Reasons XX), and this is the case for "programs for computers" "as such" in Article 52(2)(c) and (3) EPC.

5.3.6 The board understands opinion G 3/08 as taking a **negative view on the technical character of the activity of programming a computer** as also expressed in the decision T 1539/09, Reasons 4.2 (in German): "Die Tätigkeit des Programmierens - im Sinne des Formulierens von Programmcode - ist ein mentaler Vorgang, wenigstens soweit sie nicht im Rahmen einer konkreten Anwendung oder Umgebung in kausaler Weise der Erzielung einer technischen Wirkung dient."(The activity of programming - in the sense of formulating program code - is a mental act, at least in so far as it does not serve to achieve a technical

effect in a causal way within the framework of a concrete application or environment [Translation by the board]).

Computer hardware is without any doubt a field of technology within the meaning of Article 52(1) EPC. Consequently, the board sees no reason why considerations that specifically exploit technical properties of the computer system hardware to solve a technical problem related to the internal operation of the computer system, such as storing data in main memory instead of on a hard disk to be able to read the stored data with less delay, should not be viewed as "further technical considerations" in accordance with opinion G 3/08. Such considerations (and associated "further" technical effects) are not present in all computer programs.

By contrast, **the board sees no support for the appellant's view that the concept "further technical considerations" should be interpreted with a broader meaning that would also cover considerations aiming to solve problems "merely" relating to programming such as maintainability, re-usability and understandability of program code, or, in this case, the use of a universal template for translating natural language into executable expressions in external operational environments.** Such a broader view of the concept "further technical considerations" appears to be problematic with regard to the imperative to ensure legal certainty and judicial predictability requiring a uniform application of the law (see opinion G 3/08, Reasons 7.2.3) since no criteria are apparent which could then be used to establish a clear border between "technical" and "non-technical" aspects of computer programs.

5.3.7 In view of the above, the board agrees with the examining division that steps b) to p) do not contribute to the technical character of the claimed invention as these steps **do not involve technical considerations going beyond "merely" finding an abstract computer algorithm to carry out the translation from natural language text into an internal formal language**.

In particular, **nothing in steps b) to p) reflects considerations that concern the internal technical operations of a computer system on which these steps are carried out**. Rather, these steps are specified merely on an abstract level.

5.4 Steps q) and r) do not go beyond "merely" finding an algorithm, either. These steps concern translating expressions of an internal formal language into equivalent formal expressions executable in an external operational environment such as SQL. The board observes that languages such as SQL have been designed specifically to be used by persons not trained in computer programming. Rather, it is well known that SQL is based on first-order predicate logic, i.e. mathematical logic. In view of the understanding of the case law of the boards explained above, no "further technical considerations" relating, for example, to the internal operation of a computer system are apparent in steps q) and r).

5.4.1 The appellant also argued that the claimed method steps contributed to the technical character in view of decision T 1177/97.

However, the cited decision T 1177/97 relies, inter alia, on decision T 769/92. In point 13.2 of its Reasons, the cited opinion G 3/08 states: "The referral asserts (on pages 11 and 12), correctly in our view, that T 1177/97, SYSTRAN, dated 9 July 2002, considers that

programming always involves technical considerations, at least implicitly [...]". It follows that **the cited decision T 1177/97 can no longer be followed** in this respect. Hence, the appellant's arguments based on decision T 1177/97 are not persuasive.

5.4.2 The appellant also cited decision T 236/91. This decision concerned a dynamically generated menu system for inputting a sentence in natural language which then was translated into a computer command such as a database query. As this decision dealt with a specific graphical user interface for inputting natural language, the case is not comparable to the present one. In particular, as the claimed invention relates to translating natural language input into executable formal expressions, it can be regarded as having the purpose of programming by means of natural language input. The claimed invention does not at all relate to a graphical user interface for inputting computer commands.

Moreover, the cited decision T 236/91 precedes opinion G 3/08 and consequently does not take into account this opinion with its narrower view of the technicality of computer programs. The appellant's argument that according to decision T 236/91 the purpose of enabling a command to be executed by a computer was technical is not persuasive in light of opinion G 3/08.

Hence, the board considers that the appellant's arguments based on the cited decision T 236/91 are not convincing.

5.4.3 As to the appellant's argument that linguistics were not concerned with translating expressions in an internal formal language into equivalent formal expressions executable in an external operational environment, the board has made it clear that according to opinion G 3/08 the issue of technicality is not only relevant for linguistic aspects but also for the abstract formulation of algorithms. Hence, the appellant's argument does not lead to a different assessment by the board.

5.5 In view of the above, steps b) to r) do not contribute to the technical character of the method of claim 5.

5.6 According to the established case law of the boards, when assessing inventive step in accordance with the problem/solution approach, an aim to be achieved in a non-technical field may legitimately be added to the problem as a constraint to be met (see decisions T 641/00, OJ EPO 2003, 352; T 154/04, OJ EPO 2008, 46, Reasons 16).

Consequently, **the objective technical problem may be formulated as how to implement a non-technical algorithm comprising steps b) to r) in the computer system disclosed in document D4.**

5.7 The board judges that the method of claim 5 does not contain any implementation details going beyond a mere automation of the underlying non-technical algorithm using computing means known from document D4.

5.8 In view of the above, the board concludes that the method of claim 5 **lacks inventive step** and is therefore not allowable (Article 52 EPC in combination with Article 56 EPC).

T 0831/16 () of 13.4.2021

European Case Law Identifier: ECLI:EP:BA:2021:T083116.20210413

HIERARCHICAL FEDERATION METADATA

Keywords: Inventive step - (yes)

Application number: 07843693.8
IPC class: G06Q 10/00, G06F 15/16, G06F 15/173
Applicant name: Microsoft Technology Licensing, LLC

Board: 3.4.03

https://www.epo.org/law-practice/case-law-appeals/pdf/t160831eu1.pdf

Claim 1 reads (Board's labelling (A) to (I)):

(A) A data structure stored on a computer readable medium (108) and arranged for a networked computing environment comprising federations,

(B) wherein a federation comprises two or more organizations coupled in a fashion such that authentication and authorization statements span the organizations in accordance with a pre-defined policy,

(C) the data structure (108) comprising fields including at least one or more grouping of metadata about a first federation or about an organization (104, 106, 110, 112) within the first federation, wherein

(D) the metadata comprises information about the organization and structure of the first federation or the organization within the first federation,

(E) the data structure (108) further comprising a reference to explicitly defined metadata in a block of federation metadata in a different data structure (102, 114), wherein

(F) at least one of the one or more groupings of metadata about the first federation or about an organization within the first federation is included in the data structure by the reference to the explicitly defined metadata in the block of federation metadata in the different data structure (102, 114), and

(G) the block of federation metadata being used for storing metadata including explicitly defined information about the organization and structure of at least one other federation or organization;

(H) the data structure (108) further comprising inherited federation metadata for the first federation, wherein

(I) the inherited federation metadata for the first federation is included in the data structure by virtue of the first federation being hierarchically below a second federation to which the inherited federation metadata also applies such that the inherited federation metadata is inherited from the second federation by the first federation.

1. The invention as claimed

1.1 Communication within a computer system and between computer systems is defined by communication policies. These policies are included in the software code of communication modules.

1.2 Federations may be established between different groups of computer systems. A federation generally includes two or more organizations connected in a fashion such that authentication and authorization statements span the organizations in accordance with a pre-defined policy.

1.3 In addition to the policy, federation members generally need to understand additional information, such as structure or organization information. Such information is stored in metadata databases.

1.4 The invention proposes that metadata about a federation or about an organization within the federation is not stored within the federation, but is available to the federation by means of reference to metadata in a metadata block in a different federation data structure having a different hierarchical level.

…
3. Inventive Step - Article 56 EPC 1973

3.1 Closest Prior Art

Document D1 is chosen as closest prior art, because it discloses a federation system as described in Features (A) to (C) for a database structure. Document D2 is a less promising starting point for the problem and solution approach, because it relates to federations of simulation modules.

3.2 Difference

D1 discloses Features (A) to (C) in Figs. 1 and 2 together with the corresponding description. The Examining Division concluded in the impugned decision that **D1 does not disclose Features (D) to (I)**. The Board agrees with this assessment.

3.3 Effect

The **effect** may be seen in **making system communication more effective and flexible by enabling metadata from one federation being available to the other ones.**

3.4 Problem

The problem therefore may be defined as making system communication more effective and flexible.

3.5 Non-Obviousness

3.5.1 The Board is of the opinion that Features (D) to (I) are not taught by D2. D2 has a different context and in particular does not disclose that a data structure comprises fields with metadata of information about the organization (Features (C) and (D)) and that the structure of a first federation additionally comprises a reference to explicitly defined metadata in a different data structure that is included into the data structure by this reference (Features (E) and (F)).

3.5.2 D2 relates to simulation federations and has the objective to develop a hierarchical federation architecture that supports hiding secure information (last paragraph on page 67). **The information hiding is opposite to the objective of the present invention to include references in one federation to another federa**tion. The method of D2 is inter alia applied to battlefield simulations and semiconductor supply-chain simulation. D1 however relates to federations of a computer system. Already **in view of the different understanding of "federation" the skilled person would a priori not consider combining the teachings of D1 and D2**.

3.5.3 Additionally, the "Federation Gateway" and "Proxy Federate" in D2 have a different purpose and motivation than Features (F) to (I) in the present invention. D2 discloses on page 69, left hand column, second paragraph, a "Proxy Federate", which belongs to multiple federations and has the function of a kind of data bus. Thereby it provides connectivity between the federations without integrating a reference from one federation to another.

3.5.4 The "Proxy Federate" needs as communication interface separate "RTI Ambassadors" for each federation joined. The system of Ambassadors and "Proxy Federate" is only able to perform data transformation and data communication. The "Proxy Federate" belongs to multiple federations and therefore cannot be completely trusted by either federation ("it may also create a security loophole", end of second paragraph on page 69). For this reason, the gateway and proxy functionality of D2 ensures that data from one federation is expressly not included in another federation, but all data has to be accessed through an additional gateway that can hide data that the respectively other federation must not access. **This teaches away from referencing from one federation to another federation.**

3.5.5 Furthermore, D2 does not disclose or teach that metadata is exchanged by reference between two different federations at different hierarchical levels (Feature (I)).

3.5.6 The Board therefore agrees with the arguments of the Appellant in that D2 suggests a different and opposite way to make the data usable between different federations, which is the intermediate gateway federation that translates and proxies the data.

T 1746/16 () of 4.3.2021

European Case Law Identifier: ECLI:EP:BA:2021:T174616.20210304

Method and apparatus for the transfer of a money amount by using a two-dimension image code

Inventive step - (yes)
Inventive step - mixture of technical and non-technical features
Inventive step - skilled person

Application number: 12425123.2
IPC class: G06Q 20/00, G07G 1/00
Applicant name: Cavaterra, Marco Di Tucci, Cosmo

Cited decisions: G 0001/19, T 1463/11, T 2314/16, T 0697/17

Board: 3.4.03

https://www.epo.org/law-practice/case-law-appeals/pdf/t161746eu1.pdf

1. The invention as claimed

1.1 The invention concerns a payment method via mobile phone. The objective is that sensitive data does not need to be sent from the merchant's device to the server, to eliminate expensive and dedicated Point Of Sale (POS) devices (devices used by the merchant at the checkout) and to unload the network.

1.2 The invention proposes using two mobile phones. The merchant's mobile phone transfers all data relevant for the payment transaction via QR code to the customer's mobile phone. The payment data is then transmitted from the customer's mobile phone to the server via encrypted SMS including the authorisation PIN.

1.3 The method has the advantage that for the transaction only one single SMS message has to be sent via the mobile phone network. The customer can also play the role of the merchant by using the same software application. The personal information of the customer does not need to be given to the merchant during the transaction.

2. Main Request

2.1 Technicality

All the features of claim 1 are implemented on a mobile phone and are therefore technical. Some features, when not executed on the mobile phone, are related to a business method. Therefore they may be included into the formulation of the problem.

2.2 Closest prior art

Closest prior art is document D1, because it has the most features in common and relates to a similar payment method using a mobile phone and bar codes.

2.3 D1

2.3.1 D1 discloses a payment method, where the payment device is a mobile phone and the payment receiving device is a point-of-sale (POS) device. The objective in D1 is to avoid the installation of specific software and sensitive codes on the mobile device. Therefore communication "route A" (see amended Fig. 1 below) is chosen. D1 discloses encrypting information in one-dimensional bar codes. D1 teaches in the context of the discussion of the prior art the use of encoding information in mobile phones by using (two-dimensional) QR codes.

2.3.2 In D1 the transaction needs at least five communications via the Intranet (see figure below):

(1) payment data is transmitted from the merchant's

device to a server via Internet;

(2) a bar code is transmitted to the merchant's device

and shown to the client's mobile phone;

(3) the bar code received by the client is forwarded to

the server, decoded and verified there;

(4) the server then requests via the network a PIN code

for finally authorising the financial transaction;

(5) the client transmits the PIN to the server.

FORMULA/TABLE/GRAPHIC

D1, Fig. 1; bold arrows ("route A") added by the Board for illustrating the routes of communication during the financial transaction.

2.4 Difference

2.4.1 The preamble of claim 1 is disclosed in D1 in paragraphs [0018] to [0040] and in Figs. 1 to 4. In particular, registering of the parties is disclosed in paragraphs [0021] and [0022] and Fig. 4.

2.4.2 D1 fails to disclose (using the claim wording of claim 1, but referring to D1; the distinguishing features not disclosed in D1 are highlighted using underlining by the Board)

(A) that said payment receiving device (11a) is a payment receiving mobile phone;

(B) a [i. e. the same] mobile phone software module is installed on both the payment mobile phone and the payment receiving mobile phone (referring back to "the" software module further below in the claim for both the payment mobile phone and the payment receiving mobile phone implies that the same software module is installed on both devices),

(C)- in step B, the recipient party generates through the mobile phone software module installed on the payment receiving mobile phone device a two-dimensional[deleted:]image code (D1 only discloses a one-dimensional bar code generated by the server and transmitted via the POS device)

(D) containing the money amount, a USER-ID of the recipient party from a personal details archive (D1 fails to disclose such an archive) on the payment receiving mobile phone

(E) and further containing information characterizing the transaction retrieved from an operations archive (D1 fails to disclose such an archive) in the payment receiving mobile phone and visualizes the two-dimensional image code on the display of the payment receiving mobile phone; - in step B, the payment mobile phone of the paying party captures the two-dimensional image code from the display of the recipient party mobile phone;

(F) in step C, the mobile phone software module on the payment mobile phone analyses the two-dimensional image code (in D1, paragraph [0036], it is mentioned that only decoding the UPC code may take place in the mobile phone; interpretation, i. e. decoding and analysing the encoded information, is however always performed in the server 25, see paragraph [0039] and Fig. 3 of D1)

(G) and the payment mobile phone sends to the server of the money transfer managing entity an encrypted authorization SMS message (D1 does not mention an encryption of the SMS in the general sense of understanding encrypting SMS messages with an encryption key; D1 discloses in paragraph [0036] that either the bar code image or the decoded UPC code is sent via an unsecured network), the encrypted authorization SMS message including data contained in the two-dimensional image code, comprising the indication of said money amount, - in step D, the server (25) receives said encrypted authorization SMS message and authorizes or not the payment of the money amount,

(H) - the payment receiving mobile phone of the recipient party restricting itself in step B to the generation and visualization of said two-dimensional image code (in D1 the recipient party sends all relevant data to the server 25 requesting the generation of a bar code, see paragraphs [0034] and [0035]),

(I) without sending any relevant information to the server of the money transfer managing entity (the server 25 receives inter alia the amount and encodes it into the bar code sent back to the merchant), wherein

(J) the two-dimensional image code presented by the payment receiving mobile phone and captured by the payment mobile phone, provides as guarantee of the privacy only the user-ID of the recipient party, an operation number, the money amount, the phone number of the

payment receiving mobile phone (in D1, paragraph [0035], not the phone number, but other parameters such as the currency and VAT tax being charged are mentioned) and wherein,

(K) the payment mobile phone visualizes on the display the transaction money amount (in D1 the amount cannot be decoded and displayed in the customer's mobile phone) and requests the typing of the authorization PIN (in D1 the PIN is requested by the server),

(L) extracts from a "personal details" archive the user-ID of the paying party (D1 discloses neither a "personal details" nor a "keys" archive),

(M) extracts from a "keys" archive the encryption key for the authorization PIN (in D1 encryption takes place in the "Encryption Component 48" on the server 25, see paragraph [0032] and Fig. 2),

(N) encrypts the authorization PIN (in D1 the server sends a separate request for the PIN, see paragraph [0040]),

(O) composes an authorization SMS message (the SMS message sent in D1 cannot be considered to be an authorization message, since authorization takes place in a separate step via entering the PIN into the request form sent by the server to the customer or via a voice call, see paragraph [0040]) and sends the authorization SMS message to the server.

2.5 Effects

In accordance with the submissions of the Appellants in section I.3.2 of the letter dated 12 January 2016 and the discussions during the oral proceedings before the Board, **the technical effects of these fifteen differing features can be summarised as follows**:

(a) obviating the need for an expensive and dedicated POS device and the relevant connections with the server (Feature (A)),

(b) providing an efficient way of transferring information from the merchant to the buyer (Features (C), (D), (E), (F), (G), (H), and (J));

(c) the same device (mobile phone) being able to carry out both the function of buying and the function of selling depending on the need and according to a precise sequence of steps (Features (B), (C), (D), (E), and (F));

(d) the complete control of the financial transaction being within the paying party, thus guaranteeing the privacy of the paying party (Features (H), (I), (J), (K), (L), (M), (N), and (O));

(e) unloading the server, reducing the number of communications to a minimum and allowing a faster transaction while maintaining a high security level (Features (C), (D), (E), (F), (G), (H), (I), (J), (K), (L), (M), (N), and (O));

(f) making the transaction independent from any network other than the mobile phone network (Features (H), (I), (J), (K), (M), (N), and (O));

(g) the software providing full control of the transaction by analysing/displaying the data (of the two-dimensional image code), displaying the amount, providing archives for keys, PINs, IDs, and encrypting them (Features (B), (C), (D), (E), (F), (G), (J), (K), (L), (M), and (N)).

2.6 Problem

Since Feature (A) on the one hand and Features (B) to (O) on the other hand are not functionally interdependent, it is appropriate to formulate partial problems in relation to these sets of features. The problem can therefore be formulated as achieving effect (a) (first partial problem) as well as effects (b) to (g) (second partial problem).

2.7 Non-Obviousness

(A) First partial problem (effect (a))

2.7.1 Obviating the need for an expensive and dedicated POS device is solved by replacing the POS by a mobile phone. Even though the replacement of a POS is not directly motivated by the teaching of document D1, the skilled person would, when attempting to achieve the technical effect (a), consider the prior art documents discussed in document D1 and in particular the disclosure of document D6 (paragraphs [0023] and [0025]). They would thus be led in the Board's judgment to the solution claimed in Feature (A).

(B) Second partial problem (effects (b) to (g))

2.7.2 The Appellants have argued that whether or not the bar code is generated by a merchant mobile phone or is generated remotely and sent to a mobile phone did not affect a customer experience in any way, and applying the reasoning of e. g. T 2314/16 and T 1463/11 (specifically Reasons 11 to 17) cannot be regarded as part of business considerations of the notional business person.

2.7.3 The Board is of the opinion that using two-dimensional image codes is a well-known alternative to one-dimensional bar codes for the skilled person in the relevant technical field of software engineering. This includes generating and decoding bar codes on a mobile phone. Using a two-dimensional code is furthermore suggested by the prior art discussed in the present description in paragraphs [0004] and [0005], in the prior art discussed in D1 (paragraph [0005]) and in document D2 (paragraph [0057]).

2.7.4 However, **using one and the same type of device (mobile phone) and corresponding software for carrying out both the function of buying and the function of selling** depending on the need and according to a precise sequence of steps is not suggested in any of the documents cited above. Starting from D1 and complying with the concept that the server controls the transaction and matches both the merchant's and customer's action - while maintaining a high security level -, one and the same software on the mobile devices would be counter-productive. If the skilled person replaced the POS device of document D1 by a mobile phone, they would consider a specific corresponding software tailored to the need of the seller in order to guarantee the required safety level. **D1 explicitly teaches to reduce any software to be installed** (paragraphs [0008], [0009] and [0018]). In view of the teaching of

D1 the skilled person would therefore reduce these modules to a minimum. **This teaches away from a more complex universal solution.**

2.7.5 Moreover, in order to achieve the technical effects (d) and (e) starting from D1, the skilled person would have to implement "route B" for reducing the number of communications:

FORMULA/TABLE/GRAPHIC

D1, Fig. 1, solid arrows ("route B") added by the Board; dotted arrows illustrate matching of merchant's data with the customer's data on the server.

2.7.6 This **"route B" however is against the teaching and objective of D1**, i. e. avoiding software to be installed on the mobile phone and avoiding sensitive information like PIN codes or encryption keys being installed on the mobile phone.

2.7.7 **"Route B" would first require that the merchant create the two-dimensional image code on their mobile phone**. **This however would be contrary to the concept of D1,** where the server controls the transaction. The prior art also **teaches away from encoding sensitive information**, such as the authorisation PIN code, into the authorisation SMS message sent to the server:

2.7.8 The skilled person would always seek for a balance between security requirements and unloading the network. **In view of the teaching of D1, where security has first priority, the skilled person would not abandon a separate PIN request**. Given the teachings of D1 and D2 (see abstracts) the **skilled person would not abandon the matching of merchant's and customer's data by the server, either.** Therefore, a communication between the merchant's device and the server is always required in addition to the communication from the customer to the server. None of the documents cited above provides any teaching that the transaction is at the same time (1) reduced to one single communication, i. e. the authorisation SMS of the paying party, (2) performed without any message between merchant and server for matching the merchant's and client's request, and (3) performed without a separate authorisation PIN request.

2.7.9 The approach proposed by the invention has the **advantage that only one request has to be transmitted via the mobile phone network without connection to the Internet or a similar network.** This makes the method independent from any wired structure and insensitive to network interruptions during the transaction or between two transaction transmissions. These interruptions would lead to an insecure situation. The **proposed solution is both save and unloads the network by providing only one single communication via the mobile phone network**. It **considerably reduces data traffic**. During shopping events like "Black Friday" or the days prior to Christmas, where there can be thousands or millions of payments being made at the same time, the invention offers the benefit that for each of these transactions only one single data transmission to the server is needed, instead of five or more.

2.7.10 This is realised by decoding and analysing in the customer's mobile phone the two-dimensional image code comprising the transaction data (IDs of merchant and customer,

transaction amount, transaction code, phone numbers). The data is encrypted with an encryption key into an encrypted SMS message comprising in addition the authorisation PIN.

2.7.11 If - starting from document D1 - the skilled person considered to replace the POS device by a mobile phone, there would still be a communication between the merchant's device and the server (via the mobile phone network) for matching the data and in total at least one communication in addition to the communication between the customer and the server, thus leading to different subject-matter than defined in the claims.

2.7.12 Document D1 only teaches to decode the UPC code of the one-dimensional bar code in the buyer's mobile phone without analysing the content, i. e. linking the transaction information to the UPC code. This can only be done on the server where the corresponding data is saved. The solution of **D1, where the transaction is controlled by the server, therefore teaches away from the present solution which proposes to save the authorisation PIN for the server on the customer's mobile phone together with all the other transaction information in order to reduce the number of transaction communications.**

2.7.13 The prior art cited above is completely silent about Features (H) to (M), i. e. the details of the software implementation of the transaction method, handling the data, decoding and encryption. These features contribute to realising a transaction method which effectively unloads the network while maintaining a high security standard and high safety level for the transaction. Therefore, these features contribute to the technical effect of the invention, though some of them may be considered as non-technical features (see G 1/19, point 85 and T 0697/17, point 5.2.5).

2.7.14 **In summary, nothing in the prior art would lead the skilled person to the combination of all the features of claim 1. The subject-matter of claim 1 is therefore inventive.**

2.7.15 Independent system claim 8 corresponds essentially to method claim 1. Claims 2 to 7 are dependent on claim 1.

2.7.16 Accordingly, the subject-matter of claims 1 to 8 involves an inventive step (Articles 52(1) and 56 EPC).

T 3131/19 (Body movement dependent user interface/PHILIPS) of 7.4.2021

European Case Law Identifier: ECLI:EP:BA:2021:T313119.20210407

METHOD OF PROVIDING A USER INTERFACE

Claims - clarity
Claims - main request (yes)
Novelty - main request (yes)
Inventive step - main request (yes)

Application number: 08854624.7
IPC class: G06F 3/01
Applicant name: Koninklijke Philips N.V.

Board: 3.5.05

https://www.epo.org/law-practice/case-law-appeals/pdf/t193131eu1.pdf

Claim 1 of the main request reads as follows:

"Method of providing a user interface for controlling a system (1;27), including the steps of:

observing a presence of a body or body part of a user in a certain environment of a sensor device (6,14-17;30);

and being characterized by further comprising:

making available to the user at least one perceptible part (28,34) of the user interface in association with a particular functionality for interacting with the system (1;27) controlled by the user interface in dependence on a rate of displacement of the body or body part of the user observed in the certain environment; and

wherein making available to the user the at least one perceptible part of the user interface in association with the particular functionality for interacting with the system (1;27) controlled by the user interface comprises providing one of a plurality of user input controls associated with respective different actions of the system controlled by the user interface in dependence on the rate of displacement of the body or body part of the user observed in the certain environment."

2. Main request - Article 123(2) EPC

2.1 In the decision under appeal, it was objected that the introduction of the term "sensor" in claim 1 represented an intermediate generalisation of the feature "distance sensor" present in the description originally filed.

… The skilled person will understand from the whole passage relating to the first embodiment (from page 4, line 31 to page 6, line 23) that the device defined in claim 1 is one of the infra-red transducer 14, ultrasound transducer 15 and camera 16. These devices are undoubtedly sensor devices which are able to detect, at least, the presence of a body part in their environment. …

For these reasons, the board holds that the replacement of the term "device" by the wording "sensor device" in claim 1 does not contravene Article 123(2) EPC.

2.2 It was further objected in the impugned decision that the amendment from "controls" to "user input controls" in claims 1 and 9 was not supported by the application documents as originally filed. However, the board agrees with the appellant that the following passages

provide unambiguous support for the introduction of the wording "user input controls". The passage on page 5, lines 27 to 29 describes user controls and output means as elements of the user interface, which implies to the skilled person that user controls are input elements of the user interface, and are thus user input controls. … it is clear to the skilled person that the user controls are user input controls of the user interface. Moreover, the passage on page 7, lines 18 to 20 describes that the user provides input to the control system. Since the originally-filed claim 1 defines that the controls are associated with actions of the system controlled by the user interface, the skilled person will clearly understand that the controls in claim 1 as originally filed are indeed user input controls.

2.3 For these reasons, the board holds that independent claims 1 and 9 meet the requirements of Article 123(2) EPC.

3. Article 84 EPC

3.1 The impugned decision found that the feature of "observing a presence of a body or body part of a user in a certain environment of a sensor device" was unclear, since neither the kind of sensor device nor the certain environment were specified.

With respect to the wording "certain environment", the board agrees in substance with the appellant that the skilled person understands from the context of the present application that it merely defines the area that the sensor is observing. The term "certain" is merely to be understood as meaning given or predefined.

In respect of the wording "sensor device", several types of sensor are mentioned in the description, e.g. on page 5, lines 13 to 14, for performing the specific task of, at least, detecting the presence of a body part in its coverage area. The device 13 mentioned on page 5, lines 9 to 12, contrary to what is stated in the decision, is not a sensor device which observes the presence of a body part within the meaning of claim 1, but rather a component of the user interface when the latter is a touch screen used to directly interact with the user interface. Thus the wording "sensor device", **read in the light of the description**, is clear.

3.2 The decision also found that the feature of "making available to the user at least one perceptible part of the user interface" was not clear, since in the embodiment relating to the coffee machine the perceptible part was a mechanical switch which was, per se, always physically present and thus available.

However, as argued by the appellant, the wording "making available" in claim 1 does not relate only to the "perceptible part" but rather to the "perceptible part of the user interface in association with a particular functionality for interacting with the system controlled by the user interface". In the embodiment relating to the coffee machine, the mechanical switch is made available in association with a functionality for interacting with the machine which is dependent on the displacement rate of the user's hand. The switch's functionality is either the control function "stop pouring coffee" or the control function "on/off", both of which controlling the operation of the coffee machine. The mechanical switch thus represents both a user interface and a perceptible part of it within the meaning of claim 1, the switch having two different functionalities in dependence on the rate of displacement of the user's hand toward the coffee machine.

3.3 For these reasons, the board holds that independent claims 1 and 9 meet the requirements of Article 84 EPC.

4. Novelty and inventive step

4.1 Prior art

D1 discloses a control system of a video game that displays a graphical user interface, for example an animated character, on a display unit, e.g. a television monitor (see column 9, lines 36 to 39). The control of the character is performed by the user moving parts of his body (see column 9, lines 43 to 45). The control system modifies an image displayed on the monitor based on a command signal by moving the animated character in a manner intended by the user (see column 9, lines 60 to 64). The speed and direction at which the user moves determine the command signal for controlling the graphical user interface on the display unit (see column 11, lines 37 to 38). For example, an upward movement of the right arm of the user results in the character displayed on the monitor jumping, with a slow upward movement resulting in the character jumping slightly, while a fast upward movement results in the character jumping strongly (see column 11, lines 43 to 46). The system of D1 enables the video game to be controlled without requiring a combination of buttons and joysticks.

D2 discloses a man-machine gesticulatory dialogue method in a virtual environment. It uses gesticulatory means of a user the state of which is defined by a set of parameters and makes use of two functional modes. The passage from one mode to another is triggered by a step of a user's hand crossing a boundary with the means for gesticulatory communication (see the hand in Figures 2, 3a, 3b, 5, 6).

D3 discloses a motion recognition system for controlling an electronic device for interacting with a user. It is capable of detecting accelerations and angular velocities generated by the user's gestures, converting these data into a time-related gesture sequence, and then comparing the time-related gesture sequence with a predefined motion information sequence so as to enable the controlled electronic device to perform a specific operation according to the result of the comparison (see paragraph [0008]). In an embodiment, the motion recognition system is capable of defining a series of gestures to be used as a code for locking/unlocking an electronic device (see paragraph [0061]).

4.2 In the part "Further remarks" of the decision, a novelty objection based on D1 was raised.

The board however agrees with the appellant that D1 does not disclose that a part of the graphical user interface is associated, based on the displacement rate of a user's body part, with a particular functionality for interacting with the system controlled by the graphical user interface. Indeed, although the graphical display of D1 is modified based on the user's movement, no functionality for controlling the system, i.e. the video game, is associated with the modified graphical display.

The passage in column 11, lines 37 to 47 quoted in the decision discloses that the speed and direction at which the user moves determine a command signal. However, this command signal is used merely to control the movement of the graphical display output and not to

provide a part of a user interface with an associated functionality for controlling the video game.

Further, the passage in column 11, lines 60 to 67 in conjunction with Figure 7 quoted in the decision relates to a subject frame captured from a camera observing the user and the derivation of a displacement rate of the user based on this subject frame. The subject frame shown in Figure 7 is an internal representation of the captured image of the user used for determining the user's motion. It cannot represent a perceptible part of the user interface with associated functionality within the meaning of claim 1.

The **technical effect of the essential differences** detailed above between the subject-matter of claim 1 and the disclosure of D1 is that **a part of the user interface provides different functionalities for controlling the system depending on the rate of displacement of a user's body part towards the user interface**.

The **objective technical problem** can thus be formulated, as proposed by the appellant, as **how to provide an improved and more flexible user input interface for controlling a system**.

The **skilled person trying to solve this problem would not have looked into D2 or D3 since neither document is aimed at improving a user interface**. Moreover, neither of these documents discloses providing different parts of a user interface with functionalities dependent on the displacement rate of the user.

4.3 For these reasons, the board holds that the subject-matter of independent claims 1 and 9 is novel (Article 54 EPC) and involves an inventive step.
