This document includes some recent decisions of the EPO in 2022 with regards to software related inventions and shows relevant extracts from the respective decisions.

T 1158/17 (Routing electronic message/ESCHER GROUP) of 12.12.2022

European Case Law Identifier: ECLI:EP:BA:2022:T115817.20221212

ELECTRONIC BUSINESS POSTAL SYSTEM

Technical contribution - routing an electronic message and ensuring its integrity (yes - no mere automation of an administrative scheme)

Application number: 09783613.4
IPC class: G06Q 10/00, G06Q 50/00
Applicant name: Escher Group (IRL) Limited
Cited decisions: T 0641/00, T 1082/13

Board: 3.5.01

Catchwords:
A similarity [of the claimed subject-matter] to a business or administrative solution is not a sufficient reason for denying a technical contribution of a claim feature applied in a technical context and involving technical considerations. Put another way, technical considerations in the technical context cannot be negated merely on the basis of a non-technical analogy.

... The analogy to a post office, essentially invoked by the contested decision, is used in technical literature in order to describe functionality of the transport layer (layer 4) of the OSI model. However, in the Board's view, it would not be sound to assert, only based on this analogy, that communication protocols implementing this layer's functionality lack technical character.

https://www.epo.org/law-practice/case-law-appeals/pdf/t171158eu1.pdf

2. The invention

2.1 The invention concerns a system for secure delivery of business mailings, for example contracts or invoices (see original application, page 1, paragraph 2).

2.2 Looking at Figure 1, the independent claims of the main request are directed to a system (100) comprising multiple access portals (104) enabling authenticated users to send and receive electronic business mailings (page 5, paragraph 1). Although not claimed, the application explains that a user connects to the access portal using a PC or a phone and, once

authenticated, can send and retrieve electronic business mailings (page 6, third paragraph and paragraph bridging pages 6 and 7).

Each access portal is associated with a message server (108), which produces a uniquely identifiable message from an electronic business mailing sent at the portal (page 5, second paragraph), and with a secure system node (102). A delivery subsystem (110) routes a message created by the message server, associated with the sender portal, to the recipient access portal over the system nodes (page 5, second paragraph and page 8, penultimate paragraph).

Furthermore, a secure system node associated with the recipient portal ("a destination system node" in the claims) checks the integrity of a received message and the integrity of its delivery. If the received message passes both checks, the destination system node sends an acknowledgement to a secure system node associated with the sender portal ("an originating system node" - see paragraph bridging pages 8 and 9 and third paragraph on page 9). Having received the acknowledgement, the originating system node also checks the integrity of the message delivery and, if the check fails, it instructs the destination node to discard the message. Then, the originating system node sends the original message again. If the received message passes the checks at both nodes, it is delivered to the recipient's access portal (page 9, third paragraph).

2.3 Again although not claimed, the application discloses that the message servers include a checksum calculated on the message and a monotonically increasing sequence number, for example a time stamp, in each message's header (page 7, second and third paragraphs). The checksum is used to verify whether the content of the received message has changed ("to check the integrity of the received messages" in the claims) and the sequence numbers are used to verify whether the message is expected in the delivery sequence ("to check the integrity of the messages delivery" - see page 9, third paragraph and page 8, last paragraph).

3. Allowability of the main request

3.1 The Board is satisfied that the amendments made to the main request during the appeal proceedings do not contain added subject-matter and do not give rise to new clarity issues. The objections against dependent claim 7 were overcome by an amendment.

3.2 Article 56 EPC, claim 1

3.2.1 Claim 1 of the current main request defines the same system components as claim 1 of the auxiliary request refused by the examining division. Thus, the technicality assessment given by the examining division also applies to the current main request. The Board, however, does not agree with the examining division's conclusion that the features defining these components lack technicality and cannot support inventive step.

3.2.2 The contested decision stated that claim 1 of the auxiliary request defined a non-technical administrative postal scheme "comprising the abstract administrative steps and the activity roles represented by abstract functionality entities and users" (decision, point 17, third paragraph). The contested decision argued that, at the high level of abstraction at which they

were claimed and disclosed in the application, the claimed components modelled the roles of groups of persons interacting within the framework of the administrative postal scheme (point 17, last paragraph). Moreover, the application did not set out what particular hardware devices were used and it was, therefore, clear that the application's subject-matter was the administrative postal scheme and not its technical implementation (point 18, two last paragraphs and point 33).

The contested decision also held that the non-technical administrative postal scheme included the access portals, delivery subsystem, message servers, the plurality of system nodes and the steps these components carried out (point 17). The technical features were limited to the provision of computing devices programmed to fulfill those components' functions, the network connecting the computing devices and electronic encoding and encrypting of messages (point 18).

While claim 1 of the refused auxiliary request did not contain the last three features of the present main request, the decision indicated, in connection with the non-admitted main request, that these features per se also related to an administrative matter (point 14).

Applying the COMVIK approach (T 641/00 - Two identities/COMVIK), the contested decision held that the administrative postal scheme was given to the technically skilled person as the requirement specification to be implemented on the notorious networked computer system or on the technical infrastructure of one of D1 or D2. The claimed implementation was limited to routine programming and, therefore, obvious to the skilled person (points 22 to 24).

3.2.3 However, the Board judges that many of the claimed features provide a technical contribution and are subject to the assessment of inventive step.

3.2.4 Like claim 1 of the refused auxiliary request, claim 1 of the present main request defines an electronic business portal system that comprises access portals enabling users to send and receive electronic mailings. These features determine the context in which this claim is to be interpreted, namely that a message, created by the message server from an input electronic mailing, is an electronic message. It is also clear that the electronic message is automatically routed to the receiving access portal where the recipient can retrieve the electronic mailing.

Accordingly, the claim clearly defines that messaging servers, system nodes, access portals and the delivery subsystem are either appropriately programmed computers and/or programs running on computers. This was essentially acknowledged by the contested decision, at point 18.

3.2.5 In line with the appellant's argument presented in the first instance proceedings (see section VIII above), the Board judges that the provision of the above computers and/or programs in order to route an electronic message from one location to another involves considerations which go beyond what the business person providing the non-technical requirements to the technically skilled person is aware of (see T 1082/13, Reasons, point 4.8).

While the contested decision was correct in stating that the claim components were defined in functional terms at a high level of abstraction, this alone is not sufficient to negate the technical considerations involved in providing those components.

3.2.6 It follows that the claimed components could not be envisaged by the business person and are part of the technical implementation which falls within the sphere of the technically skilled person.

3.2.7 The Board is not convinced by the contested decision's finding that the claimed components were not technical because they modeled the roles of humans interacting within the framework of the administrative postal scheme.

The Board considers that a similarity to a business or administrative solution is not a sufficient reason for denying a technical contribution of a claim feature applied in a technical context and involving technical considerations. Put another way, technical considerations in the technical context cannot be negated merely on the basis of a non-technical analogy.

3.2.8 The insufficiency of such reasoning becomes clear when looking at the following example. The analogy to a post office, essentially invoked by the contested decision, is used in technical literature in order to describe functionality of the transport layer (layer 4) of the OSI model. However, in the Board's view, it would not be sound to assert, only based on this analogy, that communication protocols implementing this layer's functionality lack technical character.

3.2.9 Incidentally, the analogy to the post office even falls short, because for example resending a piece of mail, as defined in the last claimed feature, would not be possible in the analogue world of a post office. In this world, there is usually only one instance of an item, such as a handwritten letter or signed original, and it is not the normal case to keep the original and merely send copies around.

3.2.10 Neither is the Board convinced by the finding that the lack of detailed disclosure concerning the hardware used implies that the subject-matter of the application is an administrative postal scheme. This lack of technical detail does not remove, as essentially argued by the appellant, the technical contribution of routing electronic messages and ensuring their integrity in a novel manner. The questions as to which hardware should be used and what particular programming techniques should be employed were not the focus of the invention and the application legitimately relies in this respect on the skilled person's common general knowledge.

3.2.11 Turning specifically to the last four features of claim 1, the Board disagrees with the contested decision that they define administrative matter.

The Board judges that in the aforementioned claimed context the message integrity check relates to determining whether the delivered electronic message has not been altered during the transmission, or, as the application put it, whether it was delivered intact. This is a technical effect.

As regards the wording "check the integrity of the message delivery", its precise meaning is not clear. In any event, it is not derivable from this wording that the system checks whether the received message was delivered only once, as argued by the appellant; the wording can be at most interpreted as meaning that the system determines whether the way the sent message has been delivered meets some predefined standards.

However, even assuming that, unlike the former check, the latter check is based on some administrative criteria, the decision to perform this check both at the originating and destination system nodes involves technical considerations. And so does the decision on what electronic messages the two nodes should exchange in order to perform the checks. Accordingly, these features also fall within the sphere of the technically skilled person.

3.2.12 In summary, the Board judges that the access portals, message servers, delivery subsystem, system nodes and the message creation and routing functionality carried out by these components are technical features. The same is true for adapting the originating and destination system nodes to perform the integrity checks of the received messages and to discard and resend a message which fails these checks.

3.2.13 The Board judges that these features are not part of a requirement specification provided to the skilled person and in order to assess whether they involve an inventive step (Article 56 EPC), an analysis of the written prior art is necessary.

This analysis would have to contain a detailed feature mapping and precisely indicate which of the above features are novel over the prior art. It would also have to include the problem and solution approach demonstrating why the skilled person would have modified the prior art in such a way as to provide these features.

3.2.14 Such an analysis is also necessary to assess the inventive step of independent method claim 10 corresponding to claim 1.

3.2.15 Given the above assessment of technicality, the analysis of prior art in the contested decision was not sufficient.

The decision briefly mentioned that D1 and D2 related to systems enabling secure delivery of business documents and that they disclosed technical infrastructure corresponding to that described in the present application. Furthermore, the decision indicated extensive passages of these documents: eight pages of D1 and three columns of D2, but it did not discuss this disclosure in any detail (decision, point 24).

Apparently, the examining division saw no need for the detailed analysis of the written prior art, because they considered that many of the claimed features lacked technical character and, therefore, were not subject to the assessment for inventive step.

3.2.16 The appellant argued that performing integrity checks at the originating and destination system node was inventive over D1 and D2 and provided some reasoning in this respect. However, assessing these arguments requires that D1 and D2 be analysed in the above manner.

4. In view of the above, the Board decides to remit the case to the examining division.

4.1 According to Article 111(1) EPC the Board may exercise any power within the competence of the examining division, which was responsible for the decision under appeal, or remit the case to the examining division for further prosecution. Article 11 RPBA 2020 lays down that the Board shall not remit a case to the department of the first instance, unless special reasons present themselves for doing so.

4.2 The Board considers that it would not be appropriate to carry out a complete examination of novelty and inventive step on the basis of the pertinent prior art for the first time in appeal proceedings, because this is contrary to the primary object of the appeal proceedings to review the appealed decision (Article 12(2) RPBA 2020).

4.3 The Board judges that these are special reasons justifying the remittal to the examining division (Article 11 RPBA 2020).

4.4 Accordingly, the Board remits the case to the examining division for assessing the novelty and inventiveness of the main request with regard to the prior art. Furthermore, it will have to be examined whether the claim is clear (Article 84 EPC) and contains all essential features (see point 2.3 above).

4.5 Incidentally, the Board is not sure whether the search included all claimed features.

The Board notes that the International Search Report indicates the field of search as G06Q. It seems to the Board that this field is possibly too narrow to fully cover the claimed subject-matter. For example, a complete search for the applied integrity check mechanism should probably include further fields in the area of communication protocols, such as H04L.

T 1926/20 17-11-2022

European Case Law Identifier ECLI:EP:BA:2022:T192620.20221117

HOLE SELECTION SYSTEM AND METHOD

Inventive step - (yes)

Application number 11769298.8
IPC class A63B 57/00, G06F 17/30

Applicant name Schultz, Jonathan Dwight

Board 3.2.04

https://www.epo.org/boards-of-appeal/decisions/pdf/t201926eu1.pdf

Claim 1 of the main request reads as follows:

"A system for managing a green through providing variability in golf hole locations over time based on selecting a golf hole location on said green, the system comprising:

a mobile GPS device;

a processor;

a memory; and

a determination component stored in the memory, wherein said determination component is executed by said processor to:

a) access a database, wherein said database comprises a plurality of said golf hole locations associated with said green;

b) determine an available set of golf hole locations, wherein said available set of golf hole locations is determined by analyzing an attribute associated with each of said golf hole locations and removing a subset of golf hole locations from said plurality of golf hole locations based upon said analysis, wherein said attribute comprises at least one of a topographical characteristic, a schedule characteristic, a seasonal characteristic, a weather characteristic, a thermal characteristic, a green speed characteristic, and a difficulty characteristic; and wherein said analysis applies a geographic limitation based upon proximity to a previously used golf hole location and the time of last use of said previously used golf hole location;

c) select said golf hole location on said green from said available set of golf hole locations; and

d) output a presentation of said golf hole location on said green; and wherein said mobile GPS device prompts a user to mark a cup placement location and, said system confirms that said cup placement location corresponds to said golf hole location on said green."

2. The invention relates to a system for designing golf hole placements on each green of a golf course, see paragraph [0001] of the PCT publication (WO 2011/130037). The system assists greens superintendents in selecting a golf hole location that is consistent with the goals of proper green management and providing a variability in the golf hole locations over time, see paragraphs [0004], [0006]. To achieve this aim, the system comprises a processor and a program that determines an available set of golf hole locations by analysing an attribute associated to each location (e.g. a topographical characteristic, a green speed or a difficulty characteristic) and removing a subset based upon said analysis, see paragraphs [0020], [0023]. The analysis applies an additional limitation for each location. This additional limitation is based upon proximity to and [time of] last use of a previously used golf hole location, to achieve a better distribution of foot traffic, see paragraphs [0004], [0022] and [0053]. The

program then selects a golf hole location from the remaining available set and outputs a presentation of the selected hole location, see paragraph [0020].

4. Main request - Inventive step

4.1 Document D1 is considered a suitable starting point for the assessment of inventive step. D1 is directed, as is the claimed invention, to a system for managing a green through providing variability in golf hole locations over time. As held by the division, the system of D1 provides a formula to modify the pin (hole) location so that the greens keeper can move the hole position every day or at some other regular interval, see col. 6, lines 29-34. It thus provides variability in golf hole locations over time in the normal sense of the term variability (OED: The fact or quality of being variable in some respect). This is so, even if the modification program and thus the hole locations variability in D1 is predictable, as put forward by the appellant.

4.2 **Claim 1 of present main request thus differs from the known system of D1 at least in that it requires to apply a geographical limitation based upon proximity to a previously used golf hole location and the time of last use of said previously used golf hole location to the hole selection determination.**

The division held for a similar feature that it did not make a technical contribution and disregarded it for the analysis of inventive step, see impugned decision section 8.1.

4.3 Contrary to the conclusions of the opposition division, the **Board holds that the feature is not to be ignored in the inventive step assessment for the following reasons**.

4.3.1 According to established case law, as reflected in the Guidelines GL19 (of November 2019, the valid version at the time of the decision) section G-VII-5.4 (Claims comprising technical and non-technical features), a feature should be excluded from the inventive step assessment if it does not contribute to the technical character of the invention, Article 52 in combination with Article 56 EPC. The reference in the division's analysis to GL19 G-II-5.4 (Plants and animal varieties) appears to be an error. Starting from D1, the distinguishing feature should be considered as adding a geographical limitation based upon proximity to a previously used golf hole location and its time of last use. In the **Board's view, this is a technical feature having a technical effect.** Indeed, as explained in original paragraph [0053] of the patent application, proximity to green areas with recent high foot traffic may be removed by using the claimed limitation. This **contributes to a reduction in green wear and tear by suitably directing foot traffic over time, which is a technical effect serving a technical purpose.**

4.3.2 The division also found that the feature's scope included embodiments where locations close to recently used ones were used. Such embodiments could result in an undesirable concentration of foot traffic around certain areas whilst leaving other areas unused. In the **Board's view**, **concentration of foot traffic around one area or certain areas is a technical effect and contributes to technical character**. Moreover, concentration of traffic in a given area or leaving other areas substantially unused (one effect implies the other) may be a desired

technical effect for the green manager in some situations. Thus also from this perspective, the feature is considered to deliver a technical effect serving a technical purpose.

4.3.3 The feature is thus not to be ignored in the inventive step assessment.

4.4 In the light of the above technical effect, the problem to be solved can be formulated as how to modify D1's known program to provide variability in golf hole locations in order to improve or facilitate green maintenance.

4.5 D1 is aimed at maintaining the overall course difficulty. As described in column 2, lines 39-46 this is provided by correlating the slopes of all the holes such that the cumulation of all the slopes continues to provide the same course difficulty. Regarding maintenance, it only generally describes that it is known to move the cup daily or at regular intervals to protect the turf, see column 2, lines 51-53 and suggests using the information of the daily placement of the cup for better planning maintenance works, such as calculations for watering, fertilizer... or for determining the placement and flow levels of the watering heads, see column 7, lines 24 to 35. Merely changing cup location regularly is also what appears to be known from common general knowledge. This is already accomplished by the system of D1. Nothing else is suggested by the other prior art documents. D2 and D3 are directed to systems for improving a golf player's performance, e.g. by accurately determining distance to the pin, not to golf course or green maintenance. D4 relates to managing golf reservations. There is therefore no suggestion in the prior art to use proximity to a previously used hole location as a relevant parameter.

4.6 Hence, adding the time of use and proximity of a previously used hole criteria when selecting a new hole as claimed into a system for managing a green through providing variability in hole locations over time of the type of D1 is neither suggested nor rendered obvious by common general knowledge or the cited prior art.

4.7 Thus the subject-matter of claim 1 involves an inventive step within the meaning of Article 56 EPC.

T 2626/18 (Insurance risk prediction/SWISS RE) 28-09-2022

European Case Law Identifier ECLI:EP:BA:2022:T262618.20220928

System and method for forecasting frequencies associated to future loss and for related automated operation of loss resolving units

Inventive step - all requests (no)
Inventive step - insurance risk predicition and loss frequency (not technical)

Application number 11190452.0

IPC class	G06Q 40/00
Applicant name	Swiss Reinsurance Company Ltd.
Cited decisions	T 0641/00, T 0154/04, T 1358/09, T 2079/10, T 1082/13, T 2455/13, T 0550/14

Board 3.5.01

Catchword
The appellant argued that the claimed features relating to the abstract business concept neither could have been provided by the business person to the technical expert for programming, nor would the technical expert have corresponding knowledge starting from a networked standard computer system. The appellant thereby alleged that there was to be considered an imaginary third person who came up with the concept of the invention to be implemented on a computer system. The Board notes that when assessing inventive step in the field of computer implemented business related inventions following the COMVIK approach and the corresponding case law, there is no room for such a third expert. When analysing the features of a claim and answering the question of whether they provide a technical contribution, each such feature has to be judged to be either a contribution of the technical expert or of the non-technical business person in order to conclude whether there is an inventive technical contribution. (See point 4.13 of the reasons)

https://www.epo.org/boards-of-appeal/decisions/pdf/t182626eu1.pdf

2. Background

2.1 The invention concerns insurance-risk prediction and provides a model analysing potential losses of a company to be insured in order to determine the price of the company's insurance policy (originally filed application, page 2, line 6 to page 4, line 15).

The model analyses a hypothetical scenario, in which an event causes a loss to the company (page 18, line 1 to page 19, line 9). While not explicitly disclosed, but argued by the appellant during oral proceedings, such an event could be, for example, an accident on the company's premises. Looking at the Table on page 35 of the original application, the model contains interconnected components called liability risk drivers or LRD members. For example, there is a liability risk driver predicting possible property damage and human injuries resulting from human error (page 44). Another liability risk driver predicts the amount awarded by courts to injured persons as a result of mass litigation (page 35, line 19, to page 36, line 25). The model combines the output of the liability risk drivers and calculates the expected loss cost (page 51, line 26 to page 52, line 8). As shown in the third column of the aforementioned Table, the liability risk drivers employed by the main embodiment analyse business and legal factors only.

3. The claimed invention

The claimed invention additionally **assigns to the liability risk drivers physical parameters acquired by measuring devices**. The application is not specific as to what sort of physical

parameters are used; it discloses merely that the measuring devices "can comprise...all kind of sensors and data capturing or data filtering devices" (page 14, lines 9 to 11). The application does **not disclose any embodiment in which particular sensor measurements are processed**.

Furthermore, the claimed invention comprises a loss resolving unit that resolves an unspecific loss occurring at a so-called loss unit.

The claims do not provide any technical details of the computer implementation. The application merely states that the claimed units can be implemented in software (page 15, lines 20 to 22).

4. First auxiliary request, Article 56 EPC

4.1 The Board finds it more efficient to directly analyse the patentability of the auxiliary requests before deciding on the main request for remittal.

4.2 In the communication accompanying the summons, the Board raised several clarity objections and the appellant amended the claims in order to address them. Although the Board considers that claim 1 of the first auxiliary request is still unclear, the above understanding of the claimed invention allows the Board to assess inventive step.

4.3 The examining division considered that a **notoriously known computer system was an appropriate starting point** for assessing inventive step of the claimed invention and did not cite any written prior art. The European Search Report merely contained a so-called **no-search declaration**. The examining division considered that the **distinguishing features defined a business method**. Furthermore, following the COMVIK approach (T 641/00 - Two identities/COMVIK), they held that the implementation of this method on the computer system would have been obvious once it had been provided by the business person as a requirement specification to the technically skilled person within the framework of the technical problem of implementation.

4.4 The examining division interpreted **measuring devices as administrative units acquiring administrative values which did not contribute to the technical character** of the invention. However, **the Board interprets them as sensors** according to the above invention summary and explanations provided by the appellant during the oral proceedings.

Based on this understanding, the **Board considers that the appropriate starting point is a computer system connected to sensors rather than just a computer**. The Board judges that computer systems collecting sensor measurements were notorious at the priority date. Accordingly, no written evidence is required.

4.5 The claim differs from this starting point by the control unit controller, its sub-units, the loss units and the loss resolving unit.

4.6 The main point of dispute in this appeal is whether these distinguishing features define a technical solution, as argued by the appellant, or non-technical matter that could be envisaged

by the business person and thus be part of the requirement specification given to the technically skilled person, as considered by the examining division.

4.7 Based on the above understanding of the claimed invention, the **Board concludes that the distinguishing features relate per se to an abstract insurance model for predicting future losses and resolving losses that have already occurred. The Board agrees with the examining division that this model constitutes a business method excluded from patentability under Article 52(2)(c) EPC**.

4.8 The Board accepts the appellant's argument that the claimed model could be automatically executed on a computer, thereby replacing human experts in performing the risk analysis. This, however, does not alter the finding that designing a new abstract insurance model is a non-technical innovation. Technical considerations come into play only when the model is implemented on a computer. However, in view of the lack of technical detail of the claimed subject-matter, which is merely specified on a meta level, the claimed implementation is limited to routine programming. Moreover, the Board does not see any technical hurdles to be overcome or any unexpected technical effects that have been achieved. When applying the COMVIK approach, an implementation would have been obvious to the skilled person, i.e. a programmer with ordinary programming skills, tasked with implementing the claimed insurance model using physical parameters.

4.9 The Board also accepts that the **claimed model predicts future losses in a different way from a human expert.**

However, it is established case law that a comparison with the prior art, for example with what humans did before the invention, is not a suitable basis for establishing technical character of subject-matter excluded from patentability or for distinguishing between technical and non-technical features (see T 1358/09, Reasons, point 5.4).

4.10 The **Board disagrees with the appellant's view that only the skilled person could have come up with employing directly observed up-to-date physical parameters**.

The Board points out that **interacting with and exploiting information about the physical world belongs to the very nature of any business-related activity, including insurance-risk analysis** (see T 154/04, Reasons, point 20). Accepting such features as sufficient for establishing patentability would render the exclusion of business methods under Article 52(2)(c) EPC meaningless.

Furthermore, in view of T 2455/13 (Reasons, points 3.10 to 3.12), the **business person** knows about the possibility of realising business-related concepts or models on a computer system and knows how to realise these on an abstract meta-level. The Board therefore judges that the business person, such as an **insurance expert, would have recognised that a predicted loss could depend on physical parameters.**

What the business **person does not know**, however, is **how exactly the business-related concepts or models can be implemented on a computer system**. This falls within the sphere of the technical expert and is subject to the assessment of inventive step (see T

1082/13, Reasons, point 4.8). Starting from the computer connected to sensors and given the requirement to use the information of physical parameters, the Board judges, however, that it **would have been obvious for the technical expert to acquire such parameters from the sensors.** Furthermore, in view of the lack of technical detail, the Board does not see the need for inventive skills to implement the abstract business model.

4.11 The Board judges that the claimed invention does not contain sufficient technical detail to credibly achieve a (further) technical effect by scanning and selecting measured parameters and by dynamically adapting the model to these parameters. For this to be the case, the processed physical parameters and criteria on which the selection is based would have needed to be defined in much more detail.

4.12 In any event, the Board disagrees with the argument that the claimed invention provides effects similar to those in case T 2079/10. In that case, the claimed invention refined measured data based on technical considerations about sensors' positions. In contrast, the invention in the present case passes the measured parameters to the insurance model without any such pre-processing.

4.13 With its argument that **neither the business person nor the technical person could have come up with the claimed features**, the appellant seems to thereby **allege that only an imaginary third person could have devised concepts enabling the invention to be implemented on a computer system**. The appellant apparently considers that the fact that such a third person is needed supports inventive step. However, the Board notes that, when assessing inventive step in the field of computer-implemented business-related inventions following the COMVIK approach and the corresponding case law, **there is no room for such a third expert**. When analysing the features of a claim and answering the question of whether they provide a technical contribution, **each feature has to be judged to be either a contribution of the technical expert or a contribution of the non-technical business person in order to conclude whether there is an inventive technical contribution**.

In the present case, the Board concludes that the **business-related insurance model falls within the sphere of the business person for the reasons given above.**

4.14 Hence, claim 1 lacks an inventive step.

T 0698/19 16-09-2022

European Case Law Identifier ECLI:EP:BA:2022:T069819.20220916

MICRO-RESOURCE-POOLING SYSTEM AND CORRESPONDING METHOD THEREOF

Inventive step - (no)
Inventive step - mixture of technical and non-technical features
Inventive step - notional business person versus real business person versus technically skilled person

Application number	12729952.7
IPC class	G06Q 10/00
Applicant name	Swiss Reinsurance Company Ltd.
Cited decisions	G 0001/19, G 0003/08, T 1358/09, T 1784/06, T 0258/03, T 2147/16, T 0154/04, T 1670/07, T 1741/08, T 0641/00, T 0288/19, T 0524/19, T 0848/15
Citing decisions	T 0524/19, T 1049/19

Board 3.4.03

Catchword:
If non-technical features have both a technical and a non-technical effect, the technical effect must be taken into account when assessing inventive step, but the technical effect must be clearly derivable from the application as a whole (Reasons 3.6.4 (1)).

https://www.epo.org/boards-of-appeal/decisions/pdf/t190698eu1.pdf

2. The invention

2.1 In the poor regions of the world, there is a massive gap between economic and insured losses due to the lack of appropriate means in the risk transfer and damage covering business. The present invention aims at solving these problems (description, page 1, lines 18-26) by resource-pooling for risk sharing of a number of risk exposure components (i.e. policy holders).

2.2 The invention proposes a system for automated pay-out of insurance premiums. The system comprises a network computer for calculating a likelihood of risk exposure, receiving and storing payments, dividing a risk into a parameterizable part and a non-parameterizable part and in case of a loss transferring payments from both risk pools to the policy holders. The system should be stable and "give basis to better investment grounds for partners and clients supporting the system" (description, page 3, lines 28-33).

3. Article 56 EPC

3.1 Closest prior art

D1 is chosen as closest prior art because it also relates to an automated system for automatically dealing with insurance events in a network computer system. Therefore, D1 is a more suitable starting point than the standard computer chosen as the starting point in the impugned decision.

3.2 D1

D1 discloses a system for automatically claiming reimbursement from an insurance company in case of personal or material damage. The payments are automatically transferred to the account of the client.

3.3 Difference

It was not contested that D1 discloses features (A) to (D) and part of feature (P) ("transferring payment parameters"). D1 therefore fails to disclose at least features (E) to (O) and a part of feature (P).

3.4 Effect - technicality

Claim 1 of Annex A is directed at a mixed-type invention. It is thus appropriate to determine the features which do achieve a technical effect and the ones which do not.

3.5 Technical aspects of claim 1

The aspects in features (A) to (P) which clearly achieve a technical effect are that

1) an (unspecified) computer is used,

2) data are stored in different database modules and

3) different system modules (e.g. system (1) and system (3)) interact via an internal or external computer connection.

3.6 Non-technical features

3.6.1 In the summons to oral proceedings the Board noted that in its preliminary opinion the following features and aspects related to an **abstract economic model for determining and transferring insurance risks**:

(a) the total risk of the pooled risk exposure components = a first risk contribution (associated to risk exposure in relation to loan losses) + a second risk contribution (associated to risk exposure based on emergency expenses);

(b) the pooled risk is divided into a parameterizable risk part (transferred to a connected loss coverage system) and a non-parameterizable risk part;

(c) the non-parameterizable risk part is limited by ad-hoc setting of loss settlement parameters using pattern matching of historical long term development patterns;

(d) the separation of the parameterizable / non-parameterizable part is connected through a seamless integration keeping the risk exposure components not affected by the difference in the transfer (features (L) to (N));

(e) the variable number of pooled risk-exposure components is adapted to a range where not-covariant occurring risk affects only a relatively small portion of the totally pooled risk exposure components at a given time (feature (O));

(f) associated loans and emergency expenses of the risk exposure components are based both on the parameterizable risk part and the non-parameterizable risk part.

3.6.2 Steps (d) and (e) were considered **ambiguous and unclear** under Article 84 EPC (the essential feature (L) **contradicts** the description and feature (M)). As stated by the Appellant during the oral proceedings, to overcome the clarity objection feature (L) must read "parameterizable" instead of "non-parameterizable" (see point IV above). In the following examination of inventive step, the Board used the correct version.

3.6.3 The Appellant's arguments may be summarised as follows.

(1) At least steps (b), (c) and (d) contributed to the technical character of the invention. The system and method according to claim 1 was not suitable for manual implementation and was therefore not process-related to the business per se, but contained technical-related characteristics that only made sense in connection with automation and which in a non-trivial manner resulted from the basic knowledge of the computer specialist. The additional features were therefore **intrinsically related to the technical field of automation**.

Prior to automation, the handling of insured loss cases was handled by an insurance agent who determined the amount of loss to be reimbursed based on similar claims and the insurance policy. In the 1960s, attempts were made to automate the handling of claims by a computer. For this purpose, the procedures were parameterized, which led to an efficient (but less accurate) claims handling. However, there were parts that could not be parameterized. The present procedure **solved** this problem by **automating these non-parameterized parts through pattern matching with historical data by use of seamless integration**. The invention represented the complete automation of an insurance premium payment. **Automation was technical as such and had a technical effect.**

(2) The **technical improvement consisted mainly in the splitting of the loss into parameterizable and non-parameterizable parts** (here "splitting"). The "seamless integration" was a numerical method that made "splitting" technically possible in the first place. The two curve components of the "splitting" were connected by "seamless integration", so that a mathematical integration below the curves (parameterized loss over time, non-parameterized loss over time) was possible. This "splitting" could not be known to the notional business person.

The notional business person only knew purely non-technical features. This technical solution to a problem subject to a business plan could therefore not be given by the notional business person. In the case of a separation of technical and non-technical features, **a feature with a technical effect could not be attributed without justification to the notional business person who, in contrast to the real business person, had no technical understanding at all.** As there was neither a non-technical nor a technical motivation for a "seamless integration" of parameterized and non-parameterized parts or for "splitting", these features **were purely technical and had a technical effect**.

(3) The same reasoning applied for "pattern matching".

(4) As was pointed out in G 1/19 (Reasons 47, 85, 110), it was fundamentally irrelevant whether a simulated process or underlying procedure was of a technical or non-technical nature. Rather, the question was whether the means indicated constitute a technical contribution, in the sense that it could be improved by a technically skilled person. The technical problem here was precisely that no algorithm could be formulated for the non-parameterizable part of the data processing, otherwise this part could be calculated directly by means of the corresponding relation of the parameters or the algorithm.

FORMULA/TABLE/GRAPHIC drawing of G 1/19

(5) According to the scheme of G 1/19, the present invention provided a technical contribution within the rectangle, since the algorithm of steps (b) to (d) improved the stability of the system.

3.6.4 The Board is not persuaded that steps (b) to (d) on their own (see the Appellant's arguments 3.6.3(1) to (4) above) contribute to the technical character of the invention for the following reasons.

(1) Automation is admittedly technical in itself. This is inherent in the very fact that the method runs on a computer. The board agrees with the Appellant that in the present case technical and non-technical features are interwoven and that generally non-technical features can have a technical effect. If non-technical features have both a technical and a non-technical effect, the technical effect must be taken into account when assessing inventive step, **but the technical effect must be clearly derivable from the application as a whole**.

In the present case, the **automation** predominantly serves the automatic payment of an insurance premium and thus **has a purely non-technical purpose**. The payment itself is undoubtedly a technical process, but it is **motivated by a business plan** or (in the image of "notional business person" versus "technically skilled person") **commissioned by the "notional business person"** and worked out by the technically skilled person in a **straightforward manner**. The "notional business person" - unlike the "real business person" - must not have any technical skills or knowledge about how to implement an algorithm in a computer system.

(2) "Seamless integration" could indeed be regarded as a technical feature with a technical effect in the sense of the Appellant's arguments. However, the Board doubts that "seamless integration" means pure integration in the mathematical sense, i.e. the mathematical or numerical calculation of an area under a curve. The term "seamless integration" is generally known in connection with software integration and means a smooth integration of new functionalities into an existing software. The calculation of the area under a curve, which shows the total loss for a certain loss category for the total number of claims over time - and which also makes estimates for the future - makes no sense when calculating the loss or risk amount of a single micro credit.

The only explanation in the application of what "seamless integration" could mean is provided in original claim 6, namely "that the risk exposure components [= policy holders] receive a single payment", which is more indicative of the Board's interpretation "smooth integration"

in the sense that two separate payments (one for the parameterized approach, one for the non-parameterized approach) are not made, but only a single payment for both approaches. This again reflects the non-technical character of said feature.

(3) The starting point of the invention is generally a parameterized treatment of a loss case as it must implicitly underlie the procedure in D1 as D1 discloses an automated system for insurance premium pay-out. A non-parameterized pattern matching is to be integrated into this procedure. This pattern matching is an automation of the procedure of the insurance agent, who tries to treat each loss case consistently with past loss cases. It is the object of the invention - **and a business constraint** - that this pattern matching module must be integrated into the parameterizing module without affecting it. The Board agrees that the detailed technical implementation is the task of the technically skilled person and could not be undertaken by the notional business person.

Since the approach of handling a new insurance claim by reference to historical claims is a classic non-automated approach to dealing with insurance claims, it is an obvious objective to automate this approach as well. Neither the claims nor the application disclose in detail how the "pattern matching with historical data" is performed. This method might contain technical and inventive features, e.g. how the historical data is numerically prepared, how an algorithm is trimmed to recognise patterns and according to which criteria the matching is assessed. **However, the application does not provide any technical details about this, neither about the methodology nor which parameters are treated with pattern matching**.

(4) On the general and abstract level of software design it is the objective of the invention to integrate the "pattern matching module" into an existing automation module in such a way that its function is not impaired. Since splitting in itself has no other effect than to combine a known (parameterized) automation with an automated classical method (pattern matching as performed by an agent), the skilled person does not need any technical skill at this more general level to understand said objective. This is only necessary for the specific technical implementation of pattern matching, which however **is neither reflected in the claim wording nor in the application as a whole.**

The notional business person can therefore, without any technical expertise, commission a technically skilled person to integrate a pattern matching method into the parameterised automation process so that the software integration runs smoothly, just as the notional business person can commission a two-storey passenger aircraft with a budget of 10 billion euros without having detailed technical knowledge of how to implement it.

(5) Therefore, the Board concludes that steps (a) to (f) relate to an **economic algorithm** which implements an **abstract economical model**, and that consequently steps (b) to (d) on their own do **not contribute to the technical character** of the invention.

3.6.5 The Board is not persuaded either that steps (b) to (d) in combination (see the Appellant's argument 3.6.3(5) above) have a technical effect, i.e. improving the stability of the automated system of the invention, for the following reasons.

(1) According to G 1/19, Reasons 110, non-technical features may contribute to technicality if they are, for example, a reason for adapting the computer or the way in which the computer operates, or if they contribute to technical effects relating to the results of the simulation. An algorithm contributes to the technical character of a computer-implemented method only in so far as it serves a technical purpose (cf. also G 1/19, Reasons 112 citing T 1358/09 and T 1784/06).

(2) An algorithm is defined as a process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer (see Wikipedia). Therefore, the Board considers "pattern matching" (using non-parameterizable functions and description) as one component of the algorithm. According to T 258/03, Reasons 5.8, an algorithm may be considered to provide a technical contribution to the invention, if it is particularly suitable for being performed on a computer in that its design was motivated by technical considerations of the internal functioning of the computer. However, following G 3/08, Reasons 13.5 and 13.5.1, such technical considerations have to go beyond merely finding a computer algorithm to carry out some procedure (G 1/19, Reasons 11, 112, 115).

(3) It is not contested that the claimed method might provide better results than known methods, but this is an inherent property of deterministic algorithms. The mere fact that an **algorithm leads to better results does not imply that it makes a technical contribution**. The Board is of the opinion that (see also T 2147/16, catchword)

(i) the **implementation** of steps (b) to (d) into the method for evaluating and sharing risks **must have a technical effect or specific technical considerations**;

(ii) such **technical effect should be derivable from the application as a whole**;

(iii) the **algorithm must serve a technical purpose**.

ad (i)

(4) Formulating an algorithm is a cognitive exercise (see G 1/19, Reasons 112). The definition of an algorithm does not necessarily involve technical considerations (see G 3/08, Reasons 13.5.1). According to T 1358/09 (Reasons 5.2 to 5.7) an algorithm may be particularly suitable to be run on a computer in that its design was motivated by technical considerations relating to the internal functioning of the computer. It was further concluded that not all efficiency aspects of an algorithm are by definition without relevance for the question of whether the algorithm provides a technical contribution.

In G 1/19, Reasons 115, it was confirmed that a computer software - including the underlying algorithms - may contribute to the technical character of a computer-implemented invention inter alia in that it is adapted to the internal functioning of the computer or computer system/network, if it does not serve another technical purpose.

Disclosure as to how the algorithm is implemented in practice must be provided in order to give evidence that the algorithm has any proved further technical effect with respect to known algorithms and that it provides an improvement over the prior art. The present

invention has the **object to provide a stable system**. However, as discussed above, no details are given why the proposed system should be considered to provide better stability than any other system, for example, how and at which level improved stability or accuracy of the algorithm is achieved, which kind of data is used for pattern matching, how historical data is selected, prepared and compared, and which parameters are matched. The only data provided in the application is pure economical data (see e.g. Fig. 3).

ad (ii)

(5) According to T 154/04, Reasons 5, under (E) and (F), for examining patentability of an invention in respect of a claim, the claim must be construed to determine the technical features of the invention, i.e. the features which contribute to the technical character of the invention. However, the present invention does not provide sufficient and specific disclosure, such as parameters, how the algorithm is optimised for the computer, nor is this reflected in the claim wording.

To summarise, **any further technical considerations or effect must be derivable from the application as a whole and the claims must comprise the specific features which contribute to the further technical effect of the invention, since it must be made clear to third parties what the technical part of the invention is, and the technically skilled person needs these details to carry out the invention (Article 83 EPC).** This is not the case for present claim 1.

ad (iii)

(6) The algorithm claimed in the present invention depends on the specific inputs of the insurance company according to the underlying business model, i.e. insurance conditions and insurance policy. A principal purpose is the automatisation of payment transfers. For these reasons, the purpose of the claimed method is considered non-technical. The present risk assessment algorithm requires as input a certain type of historical data in a certain format or requires conditioning by the (notional) business person to train the algorithm, e.g. which kind of risks or events should be taken into account and how they should be classified and evaluated (e.g. conditions for the "ad-hoc setting of loss settlement parameters"). This depends on the individual boundary conditions, e.g. contract conditions of each insurance company and the individual insurance policy. The parameters and structure of the algorithm therefore have to be adapted to the individual insurance contract and the corresponding insurance conditions. Therefore, a risk evaluation and risk transfer system cannot have a purely technical purpose if the classification and parameters depend on the underlying economical model, e.g. parameters sets of the insurance companies and insurance contracts, such as the insured capital, types of events insured, payment parameters, lump sums etc.

(7) In summary, the board considers that **any technical effects beyond merely finding and implementing an algorithm to run the algorithm on a computer cannot be derived from the application as a whole.**

3.6.6 Consequently, steps (b) to (d) in combination ("splitting", "pattern matching" and "seamless integration") are to be regarded as non-technical.

3.7 Problem to be solved

3.7.1 According to G 1/19 (Reasons 121) models and algorithms first of all define (non-technical) constraints to be considered in the context of the COMVIK approach (see T 641/00 Headnote 2; Case Law of the Boards of Appeal, 10**(th) Edition, Sections I.D.9.2.1 to 9.2.8). Depending on whether they contribute to any technical effect achieved by the claimed invention, they may or may not in fact be taken into account in the inventive step assessment. Consequently, when a claim refers to an aim to be achieved in a non-technical field, this aim may legitimately appear in the formulation of the problem as part of the framework of the technical problem to be solved, in particular as a constraint that has to be met.

3.7.2 Claim 1 differs from D1 in features (E) to (O) and a part of feature (P) (these features corresponding to steps (a) to (f)). These features largely comprise the steps of an algorithm for insurance coverage and payment, which is non-technical and which cannot itself contribute to inventive step, but may appear in the formulation of the problem.

3.7.3 The **technical problem of the invention may therefore be considered the technical implementation of this business algorithm,** i.e. the technical problem to be solved is to implement features (a) to (f) in D1's automated system to automate the payment of insurance premiums.

3.8 Obviousness

3.8.1 The Appellant argued that the underlying physical/natural events as well as the combination of "splitting", "seamless integration" and "pattern matching" were inventive in the absence of corresponding prior art. They led to the technical effect that the non-parameterizable part could be automated, which was generally only possible for parameterizable claims. This extension made extrapolation for future damage cases technically possible. This software solution could only be created by a technically skilled person who, however, had no incentive to do so. The cited prior art did not provide a useful technical teaching for this solution.

3.8.2 The Board accepts that the losses to be paid for by insurance are usually caused by physical events or are in relation to technical accidents (as is the case in cases T 288/19 and T 524/19 from the same Applicant). However, firstly, this is not claimed. Instead, a purely abstract, economic language is used throughout the application and no reference to any specific technical feature or physical parameters can be found therein. Secondly, the claimed system does not only include embodiments where a loss is triggered by material events, such as weather conditions, but also covers embodiments in which a loss is triggered by purely economic factors, such as a fall in commodity prices. The further aspects of features (a) to (f) above thereby relate exclusively to economic considerations in the framework of a purely economic model defined by, for example, an insurance expert or economist (cf. T 0848/15 (reasons 3.2)). The only problems mentioned in the application concern risk sharing and insurance payments per se and are not related to any technical issue that would arise from the use of a computer.

3.8.3 From the point of view of the person skilled in the art, i.e. a business software developer, the task of implementing commercial features on a distributed information system is per se a normal and obvious task. Thus, the claimed technical solution does not go beyond the concept of a mere automation of constraints imposed by the business related aspects. Such automation using conventional hardware and programming methods is considered obvious to the skilled person.

3.8.4 As no technical problems derive from said non-technical aims nor any corresponding technical solutions are set out convincingly, it must be assumed that for the person skilled in the art implementing said non-technical aims on a conventional distributed information system is obvious. For example, a "resource-pooling system" may be merely a conventional server comprising databases for managing electronic payments and modules for executing the business logic (i.e., financial and risk sharing related functionality) defined by the above method steps. Furthermore, to divide the risk into a parameterizable and a non-parameterizable part relates in view of the wording used in claim 1 directly to the covering of a risk by different financial contributions (description page 6, lines 20-28, page 11, lines 20-26).

3.8.5 Also, "triggering a loss" is interpreted in the sense that, e.g., after a natural catastrophe, payments to risk exposure components are triggered. In its most general form, to trigger something means to cause an event or situation to happen, in the present case to transfer payments from the resource-pooling system to the policy holders.

3.8.6 To summarise, all above mentioned features relate to the task of implementing commercial features on a distributed information system which for a person skilled in the art is per se a normal and obvious task. The only contribution to the prior art (D1) is the claimed method for risk sharing, which is not taken into account for assessing inventive step. In accordance with established case law said method does not need to be evidenced nor hinted at by further prior art evidence.

3.9 Accordingly, the subject-matter of claim 1 according to Annex A **does not involve an inventive step** over document D1 in combination with the common general knowledge of the skilled person.

T 2948/19 (Operation status index divided into regions/SYSMEX) 15-06-2022

European Case Law Identifier ECLI:EP:BA:2022:T294819.20220615

INFORMATION PROCESSING APPARATUS AND METHOD FOR CLINICAL LABORATORY MANAGEMENT

Inventive step - (no)
Inventive step - presentation of information

Application number	17184445.9
IPC class	G06F 19/00
Cited decisions	T 1741/08, T 1802/13, T 0336/14, T 1091/17
Applicant name	SYSMEX CORPORATION

Board 3.5.05

https://www.epo.org/boards-of-appeal/decisions/pdf/t192948eu1.pdf

Claim 1 of the main request reads as follows:

"An information processing apparatus (5) to be used in management of a clinical laboratory in which an analyzer configured to analyze specimens is installed, the information processing apparatus comprising:

a communication section (50) configured to communicate with a terminal (6) operable by a user; and

a controller (51) configured to control display of the terminal via the communication section, characterized by the controller (51) being configured to execute:

a process of causing, on the basis of information collected from a plurality of analyzers (10) installed in a plurality of clinical laboratories corresponding to the user or from apparatuses (11-14) relevant to the analyzers, the terminal to display a screen including an index that indicates an operation status of an entirety of the plurality of clinical laboratories corresponding to the user; and

a process of causing, in response to the user selecting the index displayed in the screen, the terminal to display the selected index so as to be divided in a plurality of categories, wherein the plurality of categories are categories corresponding to regions which the user is in charge of, wherein

the index indicates a number of errors, an error ratio, a number of re-runs, a re-run ratio, a positive ratio, a definitive ratio, a system availability, a workload, a progress of tests, a turnaround time per specimen or a maintenance status."

1. Main request and auxiliary request 1

1.1 The appellant considers the following features of claim 1 of the main request to be novel over D1:

(i) "the terminal to display a screen including an index that indicates an operation status of an entirety of the plurality of clinical laboratories corresponding to the user",

(ii) "in response to the user selecting the index displayed in the screen, the terminal to display the selected index so as to be divided in a plurality of categories, wherein the plurality of categories are categories corresponding to regions which the user is in charge of",

(iii) "the index indicates a number of errors, an error ratio, a number of re-runs, a re-run ratio, a positive ratio, a definitive ratio, a system availability, a workload, a progress of tests, a turnaround time per specimen or a maintenance status".

1.2 Claim 1 of auxiliary request 1 differs from claim 1 of the main request in that the values that the index in feature (iii) indicates were limited to "a number of errors or an error ratio". It is thus expedient to assess inventive step with this limitation in mind.

1.3 The system disclosed in D1 can control and monitor at a central server the real-time operational status of individual analyzers in a plurality of remote laboratories as well as test results and possible error statuses (see D1, column 10, line 63 to column 11, line 17; column 16, lines 48 to 68; column 18, lines 38 to 62; column 23, lines 40 to 60; column 30, lines 34 to 68). Therefore an index as specified in feature (iii) is disclosed in D1 for individual analyzers but not for "an entirety of the plurality of clinical laboratories" as specified in feature (i). Nor does D1 disclose displaying this index divided into categories based on regions, as specified in feature (ii).

The appellant argued that in the cited passages of D1 an error status was sent only to the host computers located in individual remote laboratories but not to the central server SATCEN. The only information sent to the central server seemed to be test results. However, D1, column 30, lines 34 to 68 describes what a "trained technician in satellite central (SATCEN)" can do "in the event there is what appears to be a continued error". Therefore it is implicit that the central server is informed of an error status as well. Regardless, the appellant agreed that the **decisive issue is whether the distinguishing features contribute to the technical character of the invention**.

1.4 The distinguishing features identified above relate to presentations of information and might only in some exceptional cases (see T 1741/08, point 3.3, last paragraph; see T 1091/17, point 1.7) contribute to the technical character of the invention. The **test used in the case law to judge whether a presentation of information belongs to one of these exceptional cases is to assess whether it credibly assists the user in performing a technical task by means of a continued and guided human-machine interaction process** (see T 336/14, Headnote and T 1802/13, page 10, second full paragraph).

1.5 The presentation of an operation state underlying a technical system, prompting the system user to interact with the system to enable its proper functioning, might pass this test if it is credibly demonstrated that it assists the user in performing a technical task by means of a continued and guided human-machine interaction process. The appellant argued that the case at hand passed this test. In particular, the presentation of an index indicating the operation state of an entirety of the plurality of clinical laboratories so as to be divided into regions assisted the user, who is a laboratory operator, **in monitoring the correct operation of a plurality of geographically distributed clinical laboratories, which was a technical task**. The user could thus efficiently monitor the entirety of clinical laboratories from a remote

location without having to monitor the potentially numerous laboratories individually. By comparing the error ratio of different regions (e.g. as depicted in the user interface of Fig. 27 of the application), they could realise that certain regions had a higher error ratio. If they identified errors or malfunctioning laboratories, this would prompt them to take appropriate measures to ensure reliable testing such as shutting down a laboratory or ordering maintenance work. Reliable testing was crucial for preventing misdiagnosis and for correct medical treatment. The user was credibly assisted, as required by the test, since the assistance did not depend on the user's subjective interests or personal preferences. Finally, the user was clearly assisted by means of a continued and guided human-machine interaction process, since they interacted with the index by selecting it, which resulted in the index being divided into regions.

The board is not convinced by these arguments. The **index** according to claim 1 of auxiliary request 1 **presents an error ratio**, as shown in the example in Fig. 19 of the application, **for an entirety of a plurality of clinical laboratories**. Taking the example user interface in Fig. 19, the operation state presented to the user is "Error ratio 2.49%". **This information does not provide any guidance to the user as to whether anything should be done to enable proper functioning of the laboratories and, more importantly, as to what to do**. The same holds true when the index is divided into a plurality of regions which the user is in charge of in response to user selection. Taking the example in Fig. 27 of the application, being presented with information such as Hokkaido 1.24%, Tohoku 1.28% or Tokyo 3.16% does not provide the user with any discernible guidance as to what to do. In the absence of any indication in the claim as to the size of respective regions or the number of analyzers in a region, it is even **highly doubtful whether the user can derive any useful information from a comparison of the error ratios given for different regions**. Consequently, the distinguishing features of claim 1 of auxiliary request 1 fail to pass the test provided.

1.6 Therefore the subject-matter of claim 1 of auxiliary request 1 and, a forteriori, of claim 1 of the main request **does not involve an inventive step** (Article 56 EPC).

T 1008/19 (Generating animation based on text and user information/SAMSUNG) 19-05-2022

European Case Law Identifier ECLI:EP:BA:2022:T100819.20220519

Animation system for generating animation based on text-based data and user information

Inventive step - main request (no)

Application number	10162474.0
IPC class	G06F 17/21, G06F 17/27, G06T 13/00
Applicant name	Samsung Electronics Co., Ltd.
Cited decisions	G 0001/19, T 0843/91, T 1033/04, T 1518/11, T 2264/18

Board 3.5.07

https://www.epo.org/boards-of-appeal/decisions/pdf/t191008eu1.pdf

Claim 1 of the main request reads as follows (itemisation by the board):

|"An animation script generating device (120), comprising: |

(a)| an emotion extraction unit (122) configured to extract, from a reference database (110), an emotion based on analyzing text-based data originating from a generator of the text-based data for a receiver of the text-based data; |

(b) | an action selection unit (123) configured to select an action based on the extracted emotion; and |

(c)| a script generation unit (126) configured to combine the text-based data with the emotion and action to generate an animation script, |

|CHARACTERIZED BY |

(d)| a user profile database (113) in which a user relationship information is stored indicating a relationship type or an intimacy degree between the generator of the text-based data and the receiver of the text-based data, and in that |

(e)| the emotion extraction unit (122) is configured to extract the user relationship information from the user profile database (113), and to extract the emotion from the reference database (110), based further on the user relationship information."|

Application

2. The application concerns an animation system for generating animation based on text-based data (see page 1, lines 4 to 7, of the original description). The text-based data may be a text message, an email or a document (page 13, lines 3 to 6). The system may extract an emotion from the text-based data and select an action based on the emotion to generate an animation script, which is then used to generate an animation (page 1, lines 4 to 7, of the original description).

3. The claims of the main request and the first auxiliary request are directed to the animation script generating device of the animation system.

Main request

4. Inventive step - claim 1

4.1 Document D1 discloses a system for producing an animation from a natural sentence, i.e. text-based data (see e.g. paragraphs [0001] and [0066]). The natural sentence is written by a

user, the generator, who whishes the animation to display the emotions expressed in the natural sentence (paragraphs [0018], [0010], [0066], Figure 12). It is implicit from D1 that the animation is destined to one or more persons, who can therefore be seen as the receivers of the natural sentence (paragraph [0066], Figure 12). The system of D1 extracts a verb and a verb modifier from the text received from the user. It uses an "emotion classification table" to extract an "emotion classification" and a "basic motion table" to extract a basic motion from the verb (paragraphs [0013], [0032] to [0038], [0066] to [0070], Figure 3). It then creates "basic motion description data" which works as a script to generate the animation (paragraphs [0055] and [0071], Figure 9).

4.2 The board agrees with the contested decision's finding that the subject-matter of claim 1 differs from the animation script generating device of D1 in that it includes features (d) and (e).

4.3 The examining division judged that the distinguishing features had the non-technical purpose of taking into account a further non-technical parameter - the user relationship information - to select an emotion considered to be more "appropriate". For example, depending on whether the receiver is the generator's spouse or manager, different emotions can be considered appropriate.

4.4 The appellant submitted that the decision appeared to hinge on the word "emotion", even though the meaning of "an emotion" was not at all relevant for formulating the objective technical problem and/or for the technical nature of the invention. The appellant argued that in the system of claim 1, expression of the content with emphasis on the meaning of the message from the generator was enhanced by taking into account a relationship between the generator/sender and the receiver/addressee, to enable a more accurate reflection and/or emphasis of content, meaning and intentions of the generator. This way, the **generated animation would be more appropriate**, in view of the relationship, and thus **more reliably reflect and emphasize the content, meaning and intentions of the generator.** The problem formulation in the appealed decision was based on hindsight, by reference to the user relationship information, for which there was no hint in D1.

According to the appellant, generating a more appropriate animation which more reliably reflected and emphasised emotions of the content should be regarded as a technical purpose. Because of the technicality of the data processing, the emotion expressed by the animation should be considered as making a technical contribution. The intimacy degree mentioned in the claim was a numeral and thus a technical way of representing user relationships which constituted a technical feature. The technical problem was to create an animation script that was "more appropriate for the sender's intent, emotion, situation, content, and so on".

4.5 The board does not find these arguments convincing. The purpose of **generating a more appropriate animation which more reliably reflects and emphasises emotions** or the content, meaning and intentions of the sender of the text in view of the relationship between the sender and the receiver, **is not a technical purpose**. The **requirement** that the emotion to be expressed by the animation should take into account the relationship between sender and receiver in order to more appropriately reflect the content, meaning and intention of the sender is **established by the person skilled in human psychology**, sociology, linguistics or

graphical presentation, **not by the technically skilled person implementing the claimed device** (see also G 1/19, Reasons 122).

4.6 The board essentially agrees with the examining division's formulation of the **objective technical problem**, which correctly includes non-technical aspects as a user requirement specification. The technical problem is **how to implement, into the system known from D1, the additional non-technical user requirement of taking into account the user relationship information** (indicating a relationship type or an intimacy degree between the person who generates the text and the person who receives it) **when selecting an emotion**.

4.7 The distinguishing features solve the problem by using a database for storing information and extracting information from the database as needed.

4.8 The appellant argued that document D1 neither disclosed nor rendered obvious the simple solution of the invention of using a database with relationship information which could be as simple as an address book with contacts already therein, and defining the relationship information "in conjunction with some indication of the relationship of a contact to the owner/sender/generator". Even though databases were commonly known, it would not have been obvious to use a database in the way specified in feature (e), namely to extract the emotion from the reference database, based further on the user relationship information. The invention had the advantage to provide an automation without the need to ask the user each time for user relationship information. Consequently, the claimed subject-matter was inventive.

4.9 The board shares the examining division's view that the use of databases and database systems, e.g. tables, relational database systems, or address book applications, for storing and retrieving information, including information concerning relationships between entities, is **notoriously known**. Such a use of databases within the meaning of the claim is already known from the system of D1, which uses tables for storing the relationships between verbs/verb modifiers and emotions/basic motions (see e.g. paragraphs [0033] and [0068] to [0070], Figure 3). It would thus have been obvious for the skilled person to use one or two databases to store the non-technical user relationship information and extract the emotion in the way claimed.

4.10 Therefore, the subject-matter of claim 1 of the main request is not inventive (Article 56 EPC).

T 0909/14 (Web service without upfront storage/MICROSOFT) 03-06-2022

European Case Law Identifier ECLI:EP:BA:2022:T090914.20220603

WEB SERVICE USER EXPERIENCE WITHOUT UPFRONT STORAGE EXPENSE

Inventive step - limiting functionality for new users and giving them fewer resources (no Inventive step - not technical)
Inventive step - showing in a user interface features which can only be used after an upgrade (no Inventive step - not technical)

Application number	08836617.4
IPC class	G06Q 50/00
Applicant name	Microsoft Technology Licensing, LLC
Cited decisions	G 0001/19, T 0641/00, T 1463/11, T 1635/09, T 1670/07

Board 3.5.01

https://www.epo.org/boards-of-appeal/decisions/pdf/t140909eu1.pdf

Claim 1 of the main request reads:

"A document sharing method of allocating resources for users of a service (102), the service providing an interface for a user having a first type of account on the service through which the user can perform first functions (506) related to documents associated with the user's own account and second functions (508) related to documents associated with accounts of other users, the first functions comprising creating at least one document by the user and the second functions comprising editing at least one document created and shared by another user wherein resulting edits are stored within the other user's account, the method comprising:

communicating (202) an invitation from a user of the service to a prospective user to access the service;

upon determining (204) that no account exists for the prospective user, automatically creating (208) an account of a second type for the prospective user based on information contained in the invitation, wherein the created account of the second type does not comprise resources on the server enabling the prospective user to create documents nor resources enabling the prospective user to perform the first functions, thereby reducing a cumulative amount of resources allocated to users of the service;

presenting (206) a prospective user interface (318) for the prospective user, the prospective user interface simulating (502) the user interface without enabling the prospective user to perform the first functions;

displaying (210), through the prospective user interface, documents managed by the user to enable the prospective user to access the documents;

offering (212), via the prospective user interface, to the prospective user an opportunity to utilize capabilities of the service comprising the first functions and the second functions; and

in response to the prospective user accepting the offer (214), creating (216) an account of the first type on the service for the prospective user, and presenting a modified user interface (308) for the prospective user, the modified user interface enabling the prospective user to perform the first functions and the second functions (220)."

X. The appellant argued as follows:

The key-idea of discriminating between full users and prospective users with fewer resources came from technical considerations of saving server resources, for example storage space for documents' metadata and thus could not be ascribed to the business person. This motivation was clearly stated in the application's background section and should have been taken into account in the assessment of inventive step. The business requirement ended with how to save resources without impairing usability.

Presenting a prospective user with a simulated interface of a full user was technically motivated too. It allowed a prospective user to see the full user's interface from the beginning so that he did not need to explore its functionality from scratch after becoming a full user. This produced the technical effects of increasing the service usability and reducing the time the full user needed to explore the interface after the upgrade and, **hence, energy consumption**.

Even if the creation of a group of prospective users with less functionality were part of the business scheme, it still would not have been obvious to reduce resources given to these users. Rather, it would have been obvious to give the same resources to all users, but to disable some functionality for the prospective users. It was also unobvious in view of the business scheme to store edits to a shared document in association with the sharer's account. The obvious solution was rather to create a copy of this document for each editing user.

2. The invention

2.1 The invention concerns a web service enabling the creation, storage and sharing of documents (see published application page 1, lines 6 to 19). Such **services are known from the prior art.**

The **key idea** is to allow new (prospective) users of the service to access only part of the available functionality in order to reduce resources consumed (page 1, line 30 to page 2, line 13).

2.2 Claim 1 of the main request recites a method for creating and upgrading user accounts. The service's full users, having an account of the first type, may create their own documents and edit documents shared by others. By contrast, a prospective user, joining the service in

response to an invitation from an existing user, gets an **account of a second type not allowing him to create his own documents**, but only to edit shared documents (page 12, lines 8 to 31).

The account of the second type is said to "not comprise resources on the server enabling the prospective user to create documents". The Board objected that the application does not set out what actual resources are saved on the server (page 6, lines 20 to 33). During the oral proceedings, the appellant explained that the saved resource was storage space for documents' names and metadata within the full user account.

The service creates for the full user and the prospective user different user interface websites, the prospective user's website "simulating" the full user's one. The appellant explained at the oral proceedings that, looking at Figures 3A and 3B, an example of simulating was displaying on the prospective user website 310 a "My Documents" folder 312, even though, unlike on the full user website 300, the folder was empty because the prospective user was not allowed to create documents (page 12, lines 26 to 31).

The prospective user can upgrade his status to the full user by accepting an offer to do so presented on the prospective user interface (page 5, lines 16 to 27).

…

3. Main request, inventive step (Article 56 EPC)

3.1 The division started from a notorious data processing system comprising a plurality of networked computers. However, the **Board prefers to start from D5 since it is concerned with a document sharing service**, and hence closer to the claimed invention. In D5, all users have accounts of a first type.

It was common ground that the subject-matter of claim 1 differs from D5:

A) In that the web service enables a user to edit documents shared by another user, wherein the resulting edits are stored within the other user's account (end of opening part of claim 1).

B) By creating an account of second type for a prospective user, joining the service in response to an invitation from an existing user, wherein this account does not comprise resources on the server enabling the prospective user to create documents, thereby reducing a cumulative amount of resources allocated to users (first and second features of claim 1).

C) By presenting a prospective user interface simulating the full user interface without enabling the prospective user to create his own documents (third feature).

D) By offering to the prospective user an opportunity to upgrade his account via the prospective user interface (fifth feature).

E) By creating for the prospective user the account of the first type and presenting to him the full user interface enabling the creation of documents in response to him accepting the offer (sixth feature).

3.2 The main point of dispute in this appeal is **whether discriminating between full users and prospective users with limited functionality is the solution to the technical problem of saving resources**, as argued by the appellant (see section X, above), **or a non-technical requirement that could be envisaged by the business person** and thus part of the problem given to the skilled person under the COMVIK approach (see T 641/00 - Two identities/COMVIK) as argued by the division.

3.3 Decision **T 1463/11 - Universal merchant platform/CardinalCommerce**, further refining the COMVIK approach, set out that in the assessment of inventive step, circumstances under which inventions are developed in the real world have to be ignored to a certain extent. It **introduced the concept of the notional business person who may formulate business requirements to be implemented but will not include in them any technical matter**. The **notional business person is a legal fiction representing a shorthand for a separation of business considerations from technical ones**. Using this legal fiction is the price paid for an objective assessment; a real inventor does not hold such considerations separately from one another (see reasons 14 to 16).

3.4 Under the CardinalCommerce approach, the test used in deciding on technicality of a feature is **whether the notional business person could have come up with it**. This **boils down to determining whether there would have been at least one way to devise it without technical considerations**. If so, it does not have technical character and may form part of the requirement specification regardless of what alternative ways of arriving at it were disclosed in the application or were conceivable.

3.5 This result, although unfortunate for an applicant who did actually arrive at the feature via the technical path, is not unique to the business-related exclusion.

As noted in G1/19 - Pedestrian simulation (see end of section 82), another example would be methods for treatment of the human body which have both patentable non-therapeutic and therapeutic uses falling within the exception to patentability under Article 53(c) EPC (see, for example, T 1635/09, OJ EPO 2011, 542, Reasons, points 3 and 5, where the claims could not be limited to a non-therapeutic method because the therapeutic elements and the non-therapeutic elements of the claimed use were inseparably associated with each other).

3.6 In the present case, the Board judges that providing limited functionality for some users, such as not enabling the creation of documents, **is a business decision which need not be based on technical considerations.** There are apparent business reasons for doing it, for example charging the full user a higher subscription fee than the prospective user.

Furthermore, the Board judges that the notional business person knows that providing users with functionality utilises "resources" in general terms and limiting these resources might reduce costs. Accordingly, the notional business person seeking to reduce costs would have

required that the prospective user not be given unnecessary resources. **At this point nothing technical is going on yet.**

By contrast, the decision as to which computer resources to save is a technical implementation issue which is up to the skilled person. However, the **only implementation feature** claimed is that the saved resources are on the server. While the appellant argued that the saved resource was storage space for document metadata, this is neither claimed nor disclosed in the application.

3.7 Concerning "simulating" the full user interface, the Board judges that including in the user interface a feature which is useless without an account upgrade, for example **an empty document container, relates to the presentation of information and is not based on any technical considerations**. The appellant's argument attempting to prove that this part of the solution derives technical character from effects produced when the user operates the upgraded user interface is not convincing. In addition to being speculative, it is a typical example of the **"broken technical chain fallacy"** in the sense of T 1670/07 - Shopping with mobile device/NOKIA, reason 11.

3.8 The Board judges that the notional business person would have tasked the skilled person with implementing a non-technical business scheme in the system of D5, wherein:

- There are two user categories: full users and prospective users. Unlike the full user, the prospective user may not create documents and is not given resources required for doing it.

- A new user, joining the service in response to an invitation from its existing user, becomes the prospective user. He can upgrade his status to the full user at a later point, if he accepts an offer to do so.

- A visual container for documents created by a user is presented to the prospective users and the full users, but the prospective users' container is empty.

- Both the full and the prospective users can modify a document shared with them by another user such that the sharing user sees the modifications made.

3.9 The Board judges that starting from the disclosure of D5 and seeking to implement the above scheme, the **skilled person would have found the claimed implementation obvious**.

The following implementation features follow directly from the scheme:

- Providing functionality for editing shared documents. - Automatically creating a prospective user interface, which does not enable the prospective user to create documents, but comprises an empty container for created documents.

- Displaying in this interface, a prompt suggesting an account upgrade and triggering the upgrade in response to the user accepting the prompt, wherein the account upgrade entails creating the full user account and replacing the prospective user interface with the full user one.

Furthermore, the Board judges that not allocating to the prospective user resources on the server, which are required for creating documents, would have been obvious.

3.10 Concerning the argument that the skilled person would have rather considered disabling functionality, the Board cannot see why allocating a resource, e.g. server memory, and disabling it is more obvious than not giving this resource in the first place.

3.11 Concerning the argument that the skilled person would have rather created a copy of the document for each user editing it, the **business scheme requires that a document sharer see modifications made and the most obvious way of implementing this is to store the changes in association with his account.**

3.12 Hence, claim 1 lacks an inventive step (Article 56 EPC).
