This document includes some recent decisions of the EPO in 2020 with regards to software related inventions and shows relevant extracts from the respective decisions.

T 2133/14 (Implant revision/CODMAN) of 3.6.2020

European Case Law Identifier: ECLI:EP:BA:2020:T213314.20200603

Implant revision recognition by exchanging the revision data during transmission

Claims - clarity (yes)
Sufficiency of disclosure - (yes)
Inventive step (no)

Application number: 09250414.1
IPC class: G06F9/445, A61N1/372
Applicant name: Codman Neuro Sciences Sàrl

Board: 3.5.06

Catchwords:
An invention is not insufficiently disclosed in the sense of Article 83 EPC just because a lack of support in the sense of Article 84 EPC of a broad claim cannot be resolved by consulting the description.

https://www.epo.org/law-practice/case-law-appeals/pdf/t142133eu1.pdf

The invention

1. The application is concerned with ensuring the compatibility of application software running on two communicating electronic devices, preferably an implantable medical device such as a cardiac pacemaker and an associated control device (see paragraphs 1 and 15).

1.1 More specifically, it is observed that the application software running on the implantable device (the "second" device in claim 1 of the main request) may be updated during its lifetime and stated that, for proper operation, the control device (the "first" device) will need to run a "compatible version of application software" (see paragraph 17).

1.2 According to a prior art solution, discussed in paragraph 4 (U.S. patent application 5,800,473), if it is detected that the implant runs a more recent version of the application software than the control device, then the more recent software "objects" are downloaded from the implant to the control device. In the application, this solution is stated to require an undesirably complex implantable device, too much energy and time, and to have the further disadvantage that the control device will at any point in time only run a single version of the

application software, which may not be compatible with all implantable devices (see paragraph 4, lines 11-15, and paragraph 5). The invention is intended to overcome these disadvantages (see paragraph 9).

1.3 As a solution, it is proposed that a control device for communicating with a specific implantable device generate and transmit an "interrogation signal" to the implantable device. In response, the latter generates and transmits a "response signal" to the control device, the response signal comprising "identification information" including one or more of its type and a "unique identification number" and the version of the application software installed on it (see paragraphs 10, 20 and 23-30). The control device stores "multiple, preferably all, updates, versions or generations of the application software for the control device" in question (see paragraphs 16 and 34). Based on the received "identification information", the control device "correlates or maps" to the implantable device a compatible version of the application software using a lookup table (see paragraphs 21 and 22). Subsequently, the control device uses the so-determined compatible version (see para-graph 33). The procedure is depicted in figure 2.

Clarity and sufficiency of disclosure,

Articles 84 and 83 EPC

2. The examining division found the independent claims of both requests to be unclear for the following reasons (see the decision, points 19-22 and 25).

2.1 It was left open what kinds of interrogation and response signals could be processed by all possible electronic devices. At least for some pairs of elec-tronic devices, it would require inventive skill to provide suitable interconnection signals, while the description did not disclose further details. As a consequence, the independent claims were not supported over their full breadth by the description, Article 84 EPC, and, because "said clarity objection" could not be resolved using the description, their subject-matter was insufficiently disclosed, Article 83 EPC (see esp. the recitation of section 9.1.1.2 on pages 6 and 7 of the decision).

2.2 The claimed invention presupposed that the different software versions all had different interfaces. Because this was an unrealistic assumption, the intended "system context" was unclear (see the recitation of sections 9.1.1.3 to 9.1.1.5 on page 7 of the decision).

2.3 The claims left open how the control device was meant to be "'equipped with multiple software versions initially' for all diverse types of 'second electronic devices', [and] for all their respective versions of software", and how it was avoided that the first electronic device had to be modified whenever the application software was changed (i.e. continuously or frequently). Also, for combinatorial reasons it was unrealistic to assume that each first electronic device could store all versions of the application software for all types of second electronic device. This rendered the claims unclear, Article 84 EPC, and meant that their subject-matter was insufficiently disclosed, Article 83 EPC, because "said clarity objection" could not be resolved using the description (see the recitation of sections 9.1.2.1 to 9.1.2.5 on pages 9 and 10 of the decision).

2.4 "Correlating" a version of the application software to the second device did not have a clear technical effect, since the "correlated version of [the] application software" was neither loaded nor used for communication (see esp. the recitation of section 9.1.3 on page 11 of the decision).

The board's view on clarity and sufficiency

3. The **board does not share the conclusions of the examining division on clarity** of the independent claims.

3.1 While the board agrees with the examining division's view that "correlating" has no clear technical effect (see point 2.4 above), this **alone does not imply a lack of clarity**.

3.2 The board also agrees with the examining division that the claims do not specify any details about the inter-rogation or response signals, or what it would mean for two devices to be compatible or incompatible. The claims further do not include any feature that would allow an estimate of the number of versions the first electronic device would have to store and when or how the first electronic device would have to be updated.

3.3 **None of these omissions however implies, in the board's view, a lack of clarity - or an insufficiency of disclosure**, for that matter.

3.3.1 The board considers that the skilled person would have no technical difficulty in implementing a form of interrogation/response-protocol in devices even in a "non-standard scenario" such as a smartphone communicating with a cardiac pacemaker (see paragraph bridging pages 6 and 7 in the decision).

3.3.2 The skilled person would interpret the notion of "compatibility" as used in the claims broadly. In the broadest reasonable sense, **two pieces of software would be considered "compatible" if they are intended - and can, thus, be assumed - to interoperate properly**. Apparently, this would not be the case if their interfaces did not match. However, even software with matching interfaces might not properly interoperate, for various reasons apparent to anyone skilled in the art of programming. The skilled person would understand that, effectively, "compatibility" is what the "correlating" step establishes, and - for the purposes of the claimed subject-matter - two pieces of software are compatible if the look-up-table "says so".

3.3.3 It would have been evident to the skilled person that the memory requirements on the first electronic device grow with the number of versions of the application software to be stored. The board also agrees with the examining division that this number might well be larger than what a typical such "first electronic device" can actually store (see also "all possible versions" in claim 2). However, while it might be undesirable or impracticable for various reasons, it would not be technically difficult to either enlarge the memory of the first electronic device or to limit the number of versions to some (the most recent say, or only those needed for some "second" device types) to the detriment of others.

3.4 The board takes the view that the **skilled person would not need any explicit statement in the application to be able to handle the mentioned situations properly**. Hence, in the

board's view, **the independent claims are neither unclear in the mentioned respects, nor insufficiently supported**. Their subject-matter is **also not insufficiently disclosed**.

4. The findings in point 3 are further corroborated by the following considerations.

4.1 An objection that a claim is too broad to be supported by the description over its full breadth can be addressed by limiting the claim to a breadth which is. For that reason, the limitation of a claim covering standard and non-standard scenarios (claim 1 of the main request) to only the standard scenario of a control device and an implantable medical device (see the auxiliary request) is a valid attempt to overcome at least one of the objections regarding incomplete support by the description labelled "9.1.1.2" (see paragraph bridging pages 6 and 7 of the decision).

4.2 Moreover, the **board does not agree that the subject-matter of a claim which is not supported over its full breadth by the description or which is unclear is ipso facto insufficiently disclosed, as the examining division suggests** (loc. cit.). Accordingly, the board considers that the objection under Article 83 EPC is not correctly reasoned in the decision.

T 1798/13 (Forecasting the value of a structured financial product/SWISS … of 25.5.2020

European Case Law Identifier: ECLI:EP:BA:2020:T179813.20200525

A METHOD AND A COMPUTER SYSTEM FOR FORECASTING THE VALUE OF A STRUCTURED FINANCIAL PRODUCT

Inventive step - improving a weather forecast (no Inventive step - not technical)

Application number: 05796344.9
IPC class: G06Q40/00
Applicant name: Swiss Reinsurance Company Ltd.

Board: 3.5.01

Catchwords:
The "weather" is not a technical system that the skilled person can improve, or even simulate with the purpose of trying to improve it. It is a physical system that can be modelled in the sense of showing how it works. This kind of modelling is rather a discovery or a scientific theory, which are excluded under Article 52(2)(a) EPC and thus do not contribute to the technical character of the invention (see point 2.10ff.).

Cited decisions: T 0641/00, T 2079/10, T 2331/10

https://www.epo.org/law-practice/case-law-appeals/pdf/t131798eu1.pdf

1. The invention

1.1 The invention concerns forecasting the value of a weather-based structured financial product. The values of these products are based on specific weather measures, such as temperature, precipitation, hours of sunshine, heating degree days, cooling degree days or wind speed (page 1 of the application as filed).

1.2 Looking at Figure 2 of the application, the forecast value of the product S13 is based on forecasted weather data S11 for a defined time period and a defined geographical area relevant to the financial product S12. A quality indicator S34 is calculated, based on the accuracy of the forecasted weather data S31 compared to reference whether data S32, S21. This is said to "enable[] both investors and providers of the financial product to make better-informed decisions concerning the value of the financial product" (page 2, last paragraph). The quality indicator is used S4 to calculate the final value of the financial product S41.

2. Main request - Article 56 EPC

2.1 The examining division essentially considered that the **invention had two aspects, namely a) defining and calculating a weather forecast and b) defining and calculating the influence of the weather forecast on a particular financial product**. They could not find a technical problem solved by the implementation of either of these aspects. The decision further considered that the introduction of mathematical equations in claim 1 would not render it technical because it was not clear what technical problem these solved, cf. paragraphs 5 and 6-2 of the decision.

2.2 The appellant attempted to "boost" the technical nature of claim 1 by adding the following features to it :

(i) insertion of "optimal" and "based on specified weather measures comprising temperature and/or precipitation and/or hours of sunshine and/or heating degree days and/or cooling degree days and/or wind speed retrieved from a weather data measuring and monitoring system" in line 2 of claim 1 to further define a weather derivative portfolio;

(ii-1) replacement of the feature "by applying a stochastic time series model to the historical weather data" in lines 6 of method step "calculating reference weather data ..." with "wherein the historical weather data covering a plurality of years as a time series, is decomposed in portions with deterministic data and a portion with stochastic data, wherein the deterministic portions include historical trend data and seasonal pattern data, and wherein the reference weather data is determined for the defined time period and the defined geographical area defined in correspondence with the parameters of the structured financial product to be forecasted by establishing the reference weather data from the deterministic data, applicable to the defined time period, through auto regression, and from stochastic data determined for the time period";

(ii-2) insertion of "at least including temperature data" in lines 1 and 2 of the method step "calculating reference weather data ..." to further qualify reference weather data and historical weather data;

(ii-3) insertion of "or retrieved from an external weather-data measuring system (5)" in line 3 of the method step "calculating reference weather data ..." to define from where historical weather data is retrieved;

(iii) insertion of "at least including an average temperature, a cumulative temperature a number of heating degree days or a number of cooling degree days for the defined time period and the defined geographic area" in line 1 of the method step "calculating a forecasted weather index ...";

(iv) insertion of "at least including an average temperature, a cumulative temperature a number of heating degree days or a number of cooling degree days for the defined time period and the defined geographic area" in line 1 of the method step "calculating a reference weather index ...".

2.3 The appellant agreed that the use of the weather forecast to define a financial product had no technical character, but argued that the invention improved the reliability and predictability of weather forecast data in general, which was a technical problem. Claim 1 contained more technical features than a general purpose computer and databases and it was based on physical data and not on business data alone.

2.4 Firstly, the forecasting was based on specified weather measures, such as temperature, precipitation, hours of sunshine, heating degree days, cooling degree days or wind speed, **which represented physical, hence technical data**, see page 1, lines 13 to 16, and page 10, line 9.

2.5 Secondly, the invention did not only retrieve and use this measurement data, for example, from an external provider, such as the European Center for Medium range Weather Forecasting (ECMWF), see page 8, lines 12 to 18, but specifically calculated and further processed reference weather data and forecasted weather data. Figure 3 and page 7, line 2, to page 8, line 10, explained the steps for calculating reference weather data, and Figure 4 and page 8, lines 11 to 29, explained the steps for the establishing forecast weather data. These **steps operated on physical data and achieved the technical effect of improving this data**.

2.6 Thirdly, the calculated quality indicator gave the percentage of improvement in accuracy of the forecast over the reference simulation, page 13, lines 1 to 11. This was a novel and inventive approach because conventional solutions to improve predicability of weather forecasts would have been to provide more sensors and to make more measurements.

2.7 Regarding the first argument, the Board agrees that a **system for weather forecasting**, for example, comprising sensors for measuring specific weather data, has technical character. The invention, however, relies on the use of already measured weather data. It could be argued that this (raw) weather data represents measurements about the physical world and is therefore also technical. The situation would thus be similar to that in T 2079/10 (Steuerung von

zellulär aufgebauten Alarmsystemen / SWISSRE), reasons 4.2 and 4.3, which considered that physical parameters represent technical data and the choice of which physical parameters are to be measured are competences of the technical skilled person.

2.8 In T 2079/10, however, the invention was seen to lie in the improvement of the measurement technique itself, which involved technical considerations about the sensors and their positions. In the present case, the measurements themselves do not play a role, the **improvement is in the processing of data to provide a better weather forecast**.

2.9 The applicant's second argument is essentially that also an improvement in the weather data by calculating and further processing it is also technical. In the Board's view this leads to the **key issue in this case, namely whether improving the accuracy of given data of a weather forecast is technical.** If it is not, then the details of the algorithm, the "mathematics" as the division put it, does not help.

2.10 The **Board judges that it is not. The "weather" is not a technical system that the skilled person can improve, or even simulate with the purpose of trying to improve it.** It is a physical system that can be modelled in the sense of showing how it works. In the Board's view, **this kind of modelling is rather a discovery or a scientific theory,** which are excluded under Article 52(2)(a) EPC.

2.11 As Mellulis puts it (see Benkard, EPC, 3rd ed. (2019) on Art. 52, paragraph 232, translation from German by the Board): like the discovery, scientific theories also contain instructions for (technical) action. They are an attempt at a rational explanation of observed or expected processes based on natural laws or logical considerations. They are frequently based on a knowledge, expectation or presumption of laws, which can also be based on empirically gained knowledge. In terms of content, they resemble discoveries; there is some overlap here. They are not patentable even if they provide an explanation for activities that are in use.

2.12 This applies in the Board's view to the understanding of "weather" in the present application. **The modelling of weather in terms of historic or calculated reference data, predictions or established forecast data, trends and seasonal patterns etc. aim at a better understanding of "weather", of the causal relationships and correlations between different kinds of weather data, thereby enabling better use of previous experiences. Thus, in the Board's view, the improvement of the data in this case is rather an improvement of a model utilising a scientific theory and thus does not contribute to the technical character of the application.**

2.13 Furthermore, **the parametrisation of these models is ultimately influenced by the business requirements**. The application explains at page 1, lines 9 to 26, that weather-based financial instruments have a start date, maturity date, are defined for a specific geographical region and at least one weather condition, such as temperature, precipitation, hours of sunshine, heating degree days, cooling degree days or wind speed. It is also the business person who, as an expert in weather-based financial derivates, has not only expertise about finance, but also about mathematical models and methods and weather-based parameters which are required to define these financial instruments.

2.14 The appellant's third argument is that the quality indicator is technical because it improves the data in a way that would conventionally have been done by technical means. In the Board's view this also fails for the reasons given in the previous paragraph.

2.15 The situation in this case is comparable to T 2331/10 (Operating wind turbines / GENERAL ELECTRIC COMPANY), which concerned **forecasting electric power production based on weather forecasts and wind turbine parameters**. The Board **considered that the improvement lay in the area of modelling and algorithms which by themselves did not achieve a technical effect** (reasons 5.2). The Board also found that **the predicted forecast data signal was not a physical variable of an underlying technical system and was not linked to its functioning, but it had a business purpose, namely to make sales of electric power generation with increased confidence** (reasons 5.4 to 5.5). In the present case, the **weather forecast and the quality indicator do not serve a technical purpose, such as improving the measurement system, the collection of measurement data, the arrangement of sensors, or the like, but are (mathematical) values with a business purpose, namely determining the value of the financial product**.

2.16 In summary, the Board concludes that the sole technical elements in claims 1 and 9 remain the storage of data in a database and a computer-implementation. The closest prior art therefore is indeed a general purpose computer system for the processing and storage of data, as known and in use well before the priority year 2005. Such a computer system and its use are common general knowledge, and are even notorious. The existence of such systems before the priority date of the application does not require further evidence.

2.17 The objective technical problem is how to implement the non-technical method of forecasting the value of weather-based financial products on such a computer system. As stated in the COMVIK decision, point 7, it is legitimate to include the non-technical aspects and features of the invention in the formulation of the technical problem.

2.18 From the point of view of the relevant person skilled in the art, **the task of programming such a forecasting system on a general purpose computer system is per se a normal and obvious aim. The technical features of the implementation, however, follow directly from the requirements specification concerning the non-technical concept**.

3. Reciprocal technical effect

3.1 The appellant also argued that the invention concerned the automated management of portfolios comprising structured financial products. The portfolios were generated and controlled based on stable forecast values. A parametrisation of these structured financial products allowed them to be coupled with weather-based measurement data. This coupling of parameters of structured financial products with weather-based measurement data achieved a reciprocal technical effect between the financial products and the "real-world". The structural parameters had a direct implication and interaction with the generation of the forecast values. The data processing was adapted according to these structural parameters. Contrary to the opinion of the examining division, the method of claim 1 comprised at least the following four technical steps:

(a) generation of a forecast value based on the structural parameters of the financial product,

(b) generation of a reference value based on the structural parameters of the financial product,

(c) generation of a quality indicator by ranked probability skill score and

(d) generation of a weighted process value for the financial product.

3.2 These steps were technical, because a person skilled in the art was not be able to perform them in the defined order without a processor-based system. The internal structure of these steps allowed for a modular approach and achieved an optimisation of the underlying data processing. Furthermore, the implementation of these steps was not trivial for a normal computer programmer, because it required specific knowledge about the structured financial products to implement the control of such a portfolio based on specific weather measures. The invention associated specific structural parameters with specific forecasted weather index values and achieved thereby the reciprocal technical effect.

3.3 The Board does not disagree that the above four steps are likely computer-implemented, despite the fact that the feature "computer-implemented" was deleted from claim 1, and are technical due to their implementation on a data processing system. The Board also does not disagree with the appellant that specific knowledge about the structured financial product may be required when implementing the invention, i.e about the structural parameters, but this knowledge is part of the business specification, see paragraph 2.12 and 2.13 above.

3.4 However, the Board cannot recognise any reciprocal effect between the specific structural parameters of a financial product and the specific forecasted weather index values. The value of the financial product depends per definition on weather data, but not vise versa. **There is no influence on the quality of the weather or weather-based measurements from the parameters of the financial product.**

4. The Board concludes that claim 1 of the sole request does not involve an inventive step (Article 56 EPC).

T 1749/14 (MOBILE PERSONAL POINT-OF-SALE TERMINAL/MAXIM) of 3.4.2020

European Case Law Identifier: ECLI:EP:BA:2020:T174914.20200403

MOBILE PERSONAL POINT-OF-SALE TERMINAL

Inventive step - distinguishing features provide for a technical contribution
Inventive step - no mere automation of constraints imposed by business related aspects
Inventive step - structural and functional modifications of the closest prior art required
Remittal to the department of first instance - (yes)

Application number: 09810380.7

IPC class: G06Q20/00, G07F7/08
Applicant name: Maxim Integrated Products, Inc.

Board: 3.5.01

Catchwords:
The notional business person might come up with the abstract idea of avoiding the customer having to provide PIN and account information to the merchant.

The invention however requires a new infrastructure, new devices and a new protocol involving technical considerations linked to modified devices and their capabilities as well as security relevant modifications of the transfer of sensitive information using new possibilities achieved by the modifications to the previously known mobile POS infrastructure.

This goes beyond what the notional business person knows and concerns technical implementation details (how to implement) which are more than a straight-forward 1:1 programming of an abstract business idea. (See point 5 of the reasons).

This is in the sphere of the technical expert and subject to the assessment of inventive step (see T 1082/13).

Cited decisions: T 1463/11, T 1082/13

https://www.epo.org/law-practice/case-law-appeals/pdf/t141749eu1.pdf

Independent claim 1 of the main request reads as follows:

"1. A method comprising:

(a) storing customer account information in a customer mobile personal point-of-sale terminal (CMPPT), wherein the CMPPT includes a cellular telephone portion and a point-of-sale attachment portion; this CMPPT is personalized for the individual customer by storing (a) encryption key(s) that is(are) used for communication with the individual CMPPT of the individual customer, and using this personalized CMPPT in subsequent operations;

(b) after the storing of customer account information in the CMPPT according (a) [sic] receiving merchant account information into the CMPPT; and

(c) initiating a transaction by sending the customer account information and the merchant account information from the CMPPT to a financial transaction verification entity (FTVE)."

IV. The appellant argued essentially that according to D1 only the terminal itself was responsible for the secure handling and encrypting of the data. The examining division did not recognise that the present invention differed in that not only the terminal was part of the secure handling of the data but also the cellular phone. Therefore the terminal and cellular phone were "married" with each other. This "couple" was called a "customer mobile personal point-of-sale terminal" (CMPPT) and it included a "cellular telephone portion" and a "point-of-sale attachment portion". Both were personalised by storing encryption key(s).

Transactions could only be done when this very specific cellular telephone portion was attached into this very specific sleeve of the terminal ("point-of-sale attachment portion"). Transactions would not work with a different cellular phone even if it was the same kind of cellular phone. To recognise the correct cellular phone and effect the transaction, the once entered encryption key had to be correct. This encryption key could be used for all further transactions.

The invention created a physical entity of two separate devices and influenced them so that they could work together. This resulted in **improved security of data transactions without increasing the costs of such devices.** None of the prior art documents disclosed any combination of terminal and cellular phone as it was currently claimed.

Reasons for the Decision

1. The invention is in the field of mobile point-of-sale (POS) terminals for carrying out transactions, e.g. involving a credit card. Conventionally, the merchant possesses such mobile POS terminals and the customer has to provide his identification credentials such as account number and PIN to this merchant's unit (see e.g. D1 [0024], [0025] or [0106], 0107]). The invention tries to avoid the customer's sensitive information becoming known if the merchant's device is tampered with by allowing a transaction to be carried out without the customer having to present account information and the PIN to the merchant.

2. The closest prior art D1 discloses a mobile POS terminal which consists of a cellular phone and docking module combination (see Figures 1 and 2). This apparatus forms the whole POS terminal and is **in the possession of and under control of the merchan**t. No further equipment is required to carry out a POS transaction.

The examining division cited passages [0031], [0037] and [0167] of D1 concerning different embodiments (see point 1 of the contested decision), which refer to a check transaction or involve situations where the merchant, not the customer, has to provide his PIN. In the Board's view the cited passages do not reflect transactions where the problem of the customer having to present sensitive information to the merchant occurs. The **skilled person when assessing inventive step of the present application would therefore not consider those embodiments of D1, which do not reflect the problem posed by the present invention**, but would look for embodiments as a valid starting point where the customer has to present his credentials (PIN and/or account information).

The Board therefore refers to the preferred embodiment of a standard magnetic stripe credit card transaction (see [0105] onwards) performed with the mobile POS terminal according to D1. The docking module 200 causes the magnetic information contained on the credit card 400 to be read by the magnetic read head 208 and associated electronics on the docking module control assembly 203 in such a manner as to present to the docking module microprocessor the information contained on stripe 2 of the credit card 400.

This information includes, inter alia, identification of the credit card issuer and account number along with the credit card expiration date. The microprocessor on the docking module control assembly 203 checks the credit card 400 number and expiration date of the card.

The microprocessor on the docking module control assembly 203 then prompts the customer for their PIN number. Upon acceptance of the PIN number from the customer, the microprocessor on the docking module control assembly 203 provides an incorporated multifunction security access module (SAM) 204 to encrypt the transaction (credit card number, PIN, etc.) prior to invoking a dialing routine with the attached cellular telephone 100. The cellular telephone 100 dials the pre-configured number of the registration computer (see Figure 3, step 318).

The registration computer 318 further validates the credit card data through a validation or verification computer system (see Figure 3, step 319) in the credit card issuer's premises or some such recognised credit card clearing facility.

This transaction with the mobile POS terminal of D1 therefore involves the security problem of the customer having to provide his PIN and account number to the merchant's device, which then encrypts this information and passes it on to the Financial Transaction Verification Entity (FTVE).

The present invention seeks to overcome this by directly communicating the customer's sensitive information to the FTVE (see [0033] of the description and Figure 3 for the overall transaction handling). This is achieved **by dividing the POS terminal into a merchant part (merchant POS terminal 32 in Figure 3 of the application) and a customer part consisting of a docking station or sleeve (point-of-sale attachment portion according to the wording of the present application) and a cellular phone, the combination of both called customer mobile personal POS terminal** (CMPPT 10 in Figure 3 of the application).

Encryption keys are only usable to communicate between one particular CMPPT and the FTVE (see [0040] of the description). Any necessary merchant account information needed to initiate the transaction can be communicated from the merchant to the FTVE without such information being entered into the CMPPT (see e.g. [0014] of the description). The CMPPT can therefore be used to carry out the authorisation for a transaction such that the merchant receives an approval code, but the **customer's PIN or signature does not pass through the merchant's POS terminal** (see e.g. [0042] of the description).

3. As regards the subject-matter of claim 12, D1 discloses structural features such as a cellular phone part and a docking part. However these form the whole POS terminal and are all in the possession of the merchant. The Board agrees with the appellant (see page 3, second paragraph of the statement setting out the grounds of appeal) that the cellular phone used in D1 is a standard cellular phone without any specific modification and performs merely the dialing part of the transaction (see D1, [0100] "The cellular telephone 100 has not been modified in any manner..."). All security relevant handling and encryption is done by the merchant's terminal/docking part.

The subject-matter of independent claims 1 and 12, however, is not directed to a complete POS terminal for carrying out a complete POS transaction, but it merely claims a mobile POS terminal part, i.e. the CMPPT.

The concept of the invention differs from the teaching of D1 in that dedicated encryption keys are assigned to the POS attachment portion with the customer's cellular phone being linked by the phone's serial number thereby personalising the CMPPT. The **Board agrees with the appellant that this causes the security related effect that only this personalised cellular phone can be used for a transaction, in contrast to D1 where any cellular phone can be used**.

A further difference is that customer account information is stored in the point-of-sale attachment portion, which receives merchant account information. Customer and merchant account information is sent from the CMPPT to the FTVE when initiating a transaction, i.e. the customer account information is sent directly from the cellular phone portion of the CMPPT to the FTVE. This has the **effect that customer account information is not accessible to the merchant's POS terminal.** In contrast to the contested decision (see point 1 of the decision; page 3, first paragraph), D1 does not disclose the latter difference.

4. The **claimed subject-matter therefore requires structural and functional modifications of the mobile POS terminal of D1**:

- dividing the mobile POS terminal into a merchant part and a customer part, the customer part consisting of a cellular phone portion and a docking portion (POS attachment portion),

- personalising the customer part by storing dedicated encryption keys used for communication,

- storing customer account information in the customer part of the POS terminal and

- changing the transaction protocol by directly sending customer account information from the cellular phone portion of the customer part to the financial transaction verification center.

5. The examining division argued that no technical problem was solved by the differences over D1, which were only cognitive business aspects providing no technical contribution. The problem to be solved was therefore merely to implement the idea of defining the entry point of the transaction as the property of the customer which was an obvious automation not modifying the standard and expected intrinsic behaviour of the technical features of D1 (see page 3, last paragraph of the decision).

The **notional business person**, as introduced in T 1463/11 (Universal merchant platform / CardinalCommerce), **knows all about the business related requirements specification and knows about the fact that such business related concepts can be implemented on a computer system** (stand-alone or networked, including the Internet). What the notional business person does not know, however, is how exactly it can be implemented on a computer system. This is in the sphere of the technical expert and subject to the assessment of inventive step (see T 1082/13).

In the Board's view, in the present case the **notional business person might come up with the abstract idea of avoiding the customer having to provide PIN and account information to the merchant.** Even when considering this to be an abstract business concept for carrying out POS transactions, **it cannot however be convincingly argued that it would**

be sufficient to implement this idea on a standard general purpose mobile POS terminal infrastructure as known from D1 with standard programming skills. It requires a new infrastructure, new devices and a new protocol involving technical considerations linked to modified devices and their capabilities as well as security relevant modifications of the transfer of sensitive information using new possibilities achieved by the modifications to the mobile POS infrastructure.

This goes beyond what the notional business person knows, but rather concerns technical implementation details (how to implement) **which are more than a straight-forward 1:1 programming of an abstract business idea.** Just as T 1463/11 (supra) considered the security relevance of centralising authentication services in view of avoiding maintenance of software plug-ins in merchant computers contributed to the technical character, the Board considers the security relevance of the modifications according to point 4 above contribute to the technical character of the present invention.

6. The Board therefore considers the **objective technical problem underlying the differences outlined in point 4 above to be to improve the mobile POS terminal known from D1 in respect of the customers security against fraudulent use of their sensitive information**.

7. Since the **Board agrees with the appellant's arguments**, the decision can be taken in writing.

8. In order to assess whether the technical contribution of the claimed subject-matter of independent claims 1 and 12 is inventive (Article 56 EPC) and allowable, as requested by the appellant, a look into the further prior art is required. The Board, however, cannot be sure whether the features alleged to be non-technical or not contributing to inventive step in the contested decision have been systematically searched, in particular in view of the fact that the European Search Opinion was based on the approach of the contested decision. Only the examining division can therefore judge whether the Supplementary European Search covered those features of the independent claims, which the Board considers to provide a technical contribution as outlined above, or whether a further search is necessary.

These are special reasons which justify the remittal to the examining division (Article 11 RPBA 2020). The Board therefore remits the case for further prosecution, whereby the assessment of inventive step will have to consider all the technical features and their respective technical effects (see point 4 above).

9. The independent claims are not directed to a system or to a complete transaction as described in Figure 3 of the application, but only to the customer mobile POS terminal part. It will therefore also have to be examined whether all essential features for carrying out the invention are claimed.

T 1159/15 () of 6.4.2020

European Case Law Identifier: ECLI:EP:BA:2020:T115915.20200406

Model determination system

Mixture of technical and non-technical features
Features - technical (yes) - notorious (no)

Application number: 10007106.7
IPC class: G06Q10/00
Applicant name: Accenture Global Services Limited

Board: 3.4.03

Cited decisions: T 1194/97, T 0425/03

https://www.epo.org/law-practice/case-law-appeals/pdf/t151159eu1.pdf

1. The claimed invention

The claimed invention relates to a system and a method for determining a model operable to be used to forecast information for an objective.

In essence, the claimed invention relates to creating mathematical models based on stored information, variables and assumptions (conditions). The variables and assumptions are modified and several candidate models are generated and evaluated. Based on these evaluations, one of these candidate models is selected as the final model and is used for forecasting purposes.

As an example, models related to sales of a product are described. Based on various variables (e. g. price, geographical distribution, advertisement cost) and assumptions (e. g. higher prices decrease sales or increased advertisement costs increase sales) models attempting to estimate future sales are generated and used in order to create a business plan (see paragraphs [0017] to [0027] of the published application).

2. The decision under appeal

2.1 The impugned decision is a so-called "decision according to the state of the file" (see Guidelines for Examination in the EPO, November 2019, C-V, 15) issued at the request of the applicant (appellant). In the decision, the examining division made reference to its communication of 10 September 2014, in which objections against all claims on file were raised and the applicant was informed that a refusal of the application was to be expected.

2.2 The examining division considered that claim 1 comprised technical and non-technical features. The only technical feature of the claim was a general purpose computer as implied by the feature "a model evaluation module (204) executable by a computer...". All the remaining features of the claim related to a business method as such. According to the examining division, such a general purpose computer was so well-known before the priority

date of the application that it did not require written evidence. There was no apparent technical interaction between the features defining the business method (non-technical features) and the technical features (the general purpose computer) beyond the (implied) normal functions of a computer executing the business method. Hence, the business method would be given to the skilled person as a non-technical aim for implementation. The skilled person would implement this business method in the notoriously known general purpose computer in an obvious manner only using common general knowledge. The subject-matter of claim 1 was therefore not inventive.

The same applied also to claim 6, which defined a method performed by the system of claim 1 and to independent claim 10, which defined a computer readable storage device having stored thereon the method of claim 6 (see points 3.1 to 3.3 of the examining division's communication of 10 September 2014).

2.3 No prior art search was carried out during the first instance procedure.

The European search report included a declaration that "[t]he only identifiable technical aspects of the claimed invention relate to the use of conventional, general-purpose data processing technology for processing data of an inherently non-technical nature. The information technology employed is considered to have been generally known as it was widely to [sic] available to everyone at the date of filing/priority of the present application. **The notoriety of such prior art cannot reasonably be contested. No documentary evidence was therefore considered required**".

No prior art documents were cited during the examination procedure, either.

3. The appellant contested the opinion of the examining division that all the features of claim 1 besides the implied general purpose computer were part of a business method as such, i. e. that they were non-technical features.

3.1 According to the appellant, the following features of claim 1 were at least partially technical:

"a multidimensional data storage system storing information for models generated by the model generator, including the candidate model, the new candidate model and the final model, wherein the multidimensional storage system uses a meta data layer (401) and a data layer (402) to store the information,

...

wherein the metadata layer (401) stores aggregation rules for the at least one variable, and the storage system is configured to perform multidimensional queries using the aggregation rules stored in the meta data layer (401); and

wherein the data layer (402) includes data that is at the lowest level of each dimension, wherein the aggregation rules determine how to aggregate up from a lower level in a hierarchical dimension to higher levels in the dimension and what transformation to apply for each level".

3.2 The appellant argued that these **features defined a particular way of storing** data in the data storage of the claimed system **which was not the "notorious" way** data would be stored in a general purpose computer. Hence, these features were not notorious and, at least for this reason, a prior art search should have been carried out.

3.3 The appellant further argued that these features provided for technical effects which were not obvious to the skilled person starting from a general purpose computer as closest prior art, namely the use of less storage space and a faster response to queries. They rendered thus the subject-matter of claim 1 new and inventive (see point III starting on page 2 of the statement of the grounds of appeal).

4. The cited features of claim 1 define a data storage system (memory), which is part of the claimed system.

4.1 The defined data storage is multidimensional and comprises a meta data layer and a data layer to store the information. Variables are stored in the data layer. These variables have dimensions (attributes) organised in a hierarchy. The hierarchy may include sub-attributes or levels for each dimension. For example, one dimension may be geography and the levels in the hierarchy may be country, region, city and zip code (see paragraph [0015] of the application).

The meta data layer stores, among others, aggregation rules for the stored data. The aggregation rules describe how to aggregate up from a lower level in a hierarchy to a higher level and what transformation to apply for each level (see column 9, lines 14 to 25 of the application as published).

This configuration enables the system to respond to multidimensional queries across different levels in the hierarchies (see paragraph [0039] of the application).

4.2 Moreover, as defined in claim 1, the data storage system stores data at the lowest level of each dimension and uses the aggregation rules to determine how data are to be aggregated up to hierarchically higher levels in the dimension (see also column 9, lines 25 to 33 and paragraph [0058] of the application).

5. In the board's view, the defined data storage contains two types of data. Firstly, data encoding cognitive content, such as information related to variables, assumptions etc. These data are used in the generation of the models. Secondly, the aggregation rules, which are not related to any cognitive content but are instructions related to the operation of the system when responding to queries. These data could thus be characterised as "functional data" (see also T 1194/97, OJ EPO 2000, 575, Headnote II and Reasons 3.3 to 3.5; T 425/03, Reasons 6.2 and 6.3).

5.1 The features of claim 1 identified above define thus a particular multidimensional data structure with a hierarchy of levels for each dimension, in which data are stored at the lowest level of each dimension. Moreover, the data structure stores instructions on how the stored data are to be aggregated up to higher levels of each dimension (see also paragraphs [0042] and [0043] of the application).

In the board's view, these features provide for a technical effect that goes beyond the "normal interactions" within a computer executing a business method, because they define a particular way in which data are stored, retrieved and processed, which affects the storage space used and the speed of processing.

This would be a "further technical effect" so that these features are to be regarded as technical features and not as part of the non-technical (business) features of the claim.

5.2 The board points out that the assessment of the technical effect(s) obtained by the identified technical features, i. e. whether there is less storage space used or the query processing speed is higher, involves a comparison with the state of art and belongs, hence, to the discussion about inventive step. It is established case law and practice that assessment of the technical character of the claimed-subject matter is to be carried out without any consideration of the state of the art.

6. It follows from the above that in the assessment of inventive step of the claimed subject-matter, the identified technical features should not be included in the non-technical aim that is given to the skilled person for implementation.

6.1 Moreover, the board is also of the opinion that these technical features define a particular way of storing, retrieving and processing data, which does not fall under the generic definition of a general purpose computer with the corresponding data storage. In the board's view these features **cannot be considered as being notoriously well-known technical features for which no documentary prior art evidence is necessary**.

6.2 The same is also valid for independent claim 6, which comprises the corresponding features and claim 10, which makes reference to the method of claim 6.

T 0161/18 (Äquivalenter Aortendruck/ARC SEIBERSDORF) of 12.5.2020

European Case Law Identifier: ECLI:EP:BA:2020:T016118.20200512

VERFAHREN ZUR BESTIMMUNG DES HERZZEITVOLUMENS

Ausreichende Offenbarung - Ausführbarkeit (nein)
Erfinderische Tätigkeit - (nein)

Anmeldenummer: 06804383.5
IPC-Klasse: G06F19/00
Name des Anmelders: ARC Seibersdorf Research GmbH

Kammer: 3.5.05

Orientierungssatz:
1. Die vorliegende, auf maschinellem Lernen insbesondere im Zusammenhang mit einem künstlichen neuronalen Netz beruhende Erfindung ist nicht ausreichend offenbart, da das erfindungsgemäße Training des künstlichen neuronalen Netzes mangels Offenbarung nicht ausführbar ist.

2. Da sich im vorliegenden Fall das beanspruchte Verfahren vom Stand der Technik nur durch ein künstliches neuronales Netz unterscheidet, dessen Training nicht im Detail offenbart ist, führt die Verwendung des künstlichen neuronalen Netzes nicht zu einem speziellen technischen Effekt, der erfinderische Tätigkeit begründen könnte.

Angeführte Entscheidungen: T 0696/02

https://www.epo.org/law-practice/case-law-appeals/pdf/t180161du1.pdf

Der Wortlaut der unabhängigen Ansprüche 1 und 8 lautet wie folgt:

"1. Verfahren zur Bestimmung des Herzzeitvolumens aus einer an der Peripherie gemessenen arteriellen Blutdruckkurve, bei welchem die an der Peripherie gemessene Blutdruckkurve rechnerisch auf den äquivalenten Aortendruck transformiert wird und aus dem äquivalenten Aortendruck das Herzzeitvolumen errechnet wird, **dadurch gekennzeichnet**, dass die **Transformation** der an der Peripherie gemessenen Blutdruckkurve in den äquivalenten Aortendruck **mit Hilfe eines künstlichen neuronalen Netzes vorgenommen wird, dessen Gewichtungswerte durch Lernen bestimmt werden.**"

"8. Vorrichtung zur Bestimmung des Herzzeitvolumens aus der an der Peripherie gemessenen arteriellen Blutdruckkurve, umfassend eine Messeinrichtung (2) zur Erfassung der Blutdruckkurve an der Peripherie, eine Recheneinheit zur Transformation der gemessenen Blutdruckkurve (7) in den äquivalenten Aortendruck (9) und eine Recheneinheit zur Berechnung des Herzzeitvolumens (11) aus dem äquivalenten Aortendruck (9), dadurch gekennzeichnet, dass die Recheneinheit zur Transformation der gemessenen Blutdruckkurve (7) ein künstliches neuronales Netz (8) aufweist, dessen Gewichtungswerte durch Lernen bestimmt wurden."

2. Ausreichende Offenbarung (Artikel 83 EPÜ)

2.1 Artikel 83 EPÜ erfordert, dass die Erfindung in der europäischen Patentanmeldung so deutlich und vollständig zu offenbaren ist, dass der Fachmann sie ausführen kann. Dafür muss die Offenbarung der Erfindung in der Anmeldung es dem Fachmann ermöglichen, die der beanspruchten Erfindung innewohnende technische Lehre anhand seines allgemeinen Fachwissens zu reproduzieren.

2.2 Die vorliegende Anmeldung nutzt ein künstliches neuronales Netz zur Transformation der an der Peripherie gemessenen Blutdruckkurve in den äquivalenten Aortendruck. Bezüglich des Trainings des erfindungsgemäßen neuronalen Netzes offenbart die vorliegende

Anmeldung lediglich, dass die Eingabedaten ein breites Spektrum von Patienten unterschiedlichen Alters, Geschlechts, Konstitutionstyps, Gesundheitszustand und dergleichen abdecken sollen, damit es nicht zu einer Spezialisierung des Netzes kommt (siehe Seite 5, letzter Absatz bis Seite 6, erster Absatz). Die Anmeldung offenbart jedoch nicht welche Eingabedaten zum Trainieren des erfindungemäßen künstlichen neuronalen Netzes geeignet sind, oder mindestens einen zur Lösung des vorliegenden technischen Problems geeigneten Datensatz. **Das Trainieren des künstlichen neuronalen Netzes kann daher vom Fachmann nicht nachgearbeitet werden und der Fachmann kann die Erfindung deshalb nicht ausführen.** Die vorliegende, auf maschinellem Lernen insbesondere im Zusammenhang mit einem künstlichen neuronalen Netz beruhende Erfindung ist somit **nicht ausreichend offenbart, da das erfindungsgemäße Training mangels entsprechender Offenbarung nicht ausführbar ist.**

2.3 Die Kammer teilte der Beschwerdeführerin bereits in ihrer vorläufigen Meinung mit, dass der **Fachmann angesichts dieser Lücke in der Offenbarung der vorliegenden Anmeldung die Erfindung nicht reproduzieren kann.** Die Beschwerdeführerin antwortete darauf nicht. Unter diesen Umständen sieht die Kammer keinen Grund, ihre vorläufige Meinung zu ändern.

2.4 **Damit erfüllt die Anmeldung nicht die Erfordernisse von Artikel 83 EPÜ.**

3. Erfinderische Tätigkeit (Artikel 56 EPÜ)

3.1 Abgesehen von der mangelhaften Offenbarung der Erfindung, kann der Gegenstand des Anspruchs 1 **nicht als erfinderisch angesehen** werden.

3.2 Die angefochtene Entscheidung betrachtete D1 als nächstliegenden Stand der Technik. Die Beschwerdeführerin erhob keine Einwände dagegen. D1 ist ein Familienmitglied von US 5,400,793, von dem die Erfindung ausgegangen ist (siehe die Beschreibung, Seite 2, vorletzter Absatz bis Seite 3, erster Absatz).

3.3 Die Beschwerdeführerin trug in der Beschwerdebegründung vor, dass das folgende Merkmal des Anspruchs 1 nicht in D1 offenbart sei: "[dass] die Transformation der an der Peripherie gemessenen Blutdruckkurve in den äquivalenten Aortendruck mit Hilfe eines künstlichen neuronalen Netzes vorgenommen wird, dessen Gewichtungswerte durch Lernen bestimmt werden".

3.4 Ein Verfahren zur Bestimmung des Herzzeitvolumens aus einer an der Peripherie gemessenen arteriellen Blutdruckkurve, bei welchem die an der Peripherie gemessene Blutdruckkurve rechnerisch in die entsprechende zentrale Blutdruckkurve transformiert wird und aus der zentralen Blutdruckkurve das Herzzeitvolumen errechnet wird, wurde bereits in D1 offenbart (siehe auch die Anmeldung, Seite 2, Zeile 32 bis Seite 3, Zeile 3). Die **Beschwerdeführerin** sah die durch die Erfindung **gelöste Aufgabe** darin, ein Verfahren sowie eine entsprechende Vorrichtung zur **Bestimmung des Herzzeitvolumens** zu schaffen, welches eine **präzise Ermittlung des Herzzeitvolumens gewährleistet, wobei der Rechenaufwand innerhalb vertretbarer Grenzen gehalten werden soll** (dritter Absatz auf Seite 3 der Beschwerdebegründung, vgl. auch die Argumente zur Aufgabestellung auf Seite 3 unten / Seite 4 oben).

3.5 Anspruch 1 **löst diese Aufgabe mit Hilfe eines künstlichen neuronalen Netzes, dessen Gewichtungswerte durch Lernen bestimmt werden**. Die Beschwerdeführerin argumentierte, dass die Verwendung eines künstlichen neuronalen Netzes den technischen Effekt habe, dass das Herzzeitvolumen auf der Grundlage der an der Peripherie gemessenen arteriellen Blutkurve zuverlässig und präzise unter Berücksichtigung der Schmalbandnatur und Resonanzerscheinungen im niederfrequenten Bereich des Übertragungsweges zwischen der Aorta und der Peripherie ermittelt werden könne, wobei der Rechenaufwand innerhalb vertretbarer Grenzen gehalten werde, was eine Integration in ein mobiles und entsprechend handliches Gerät ermögliche. Die **Kammer ist nicht davon überzeugt, dass das künstliche neuronale Netz gemäß Anspruch 1 die Schmalbandnatur und Resonanzerscheinungen im niederfrequenten Bereich des Übertragungsweges zwischen der Aorta und der Peripherie berücksichtigt, da weder der Anspruch noch die Beschreibung Einzelheiten bezüglich des Trainings des künstlichen neuronalen Netzes enthält**. **Der bloße Hinweis darauf, dass Gewichtswerte durch Lernen bestimmt werden, geht nach Auffassung der Kammer nicht über das hinaus, was der Fachmann unter einem künstlichen neuronalen Netz versteht.** Im vorliegenden Fall ist das beanspruchte neuronale Netz daher nicht für die spezielle, beanspruchte Anwendung angepasst. Es erfolgt daher nach Auffassung der Kammer hier nur eine nicht näher spezifizierte Anpassung der Gewichtswerte, die in der Natur jedes künstlichen neuronalen Netzes liegt. Die Kammer ist daher nicht davon überzeugt, dass der vorgetragene Effekt in dem beanspruchten Verfahren über den gesamten beanspruchten Bereich erzielt wird. Dieser Effekt kann daher nicht im Sinne einer Verbesserung gegenüber dem Stand der Technik bei der Beurteilung der erfinderischen Tätigkeit berücksichtigt werden.

3.6 Da der Gegenstand von des Anspruchs 1 nicht zu einer Verbesserung gegenüber dem Stand der Technik führt, liegt die **objektive Aufgabe darin, eine Alternative zu dem in D1 offenbarten Verfahren bereitzustellen**. **Die Lösung dieser Aufgabe (Verwendung eines künstlichen neuronalen Netzes, dessen Gewichtungswerte durch Lernen bestimmt werden) beruht nicht auf einer erfinderischen Tätigkeit. Die Verwendung künstlicher neuronaler Netze entspricht nicht nur einem allgemeinen Trend in der Technik, sie war auch bereits bekannt für die Transformation der an der Peripherie gemessenen Blutdruckkurve in den äquivalenten Aortendruck.** Ein entsprechendes Dokument wurde von der Kammer mit dem Ladungsbescheid in das Verfahren eingeführt:

D8: A. Qasem et al., "A neural network for estimation of aortic pressure from the radial artery pressure pulse", Proceedings of the 23rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2001, Seiten 237-239, online verfügbar unter https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1018899

3.7 D8 offenbart die Transformation der an der Peripherie gemessenen Blutdruckkurve in den äquivalenten Aortendruck mit Hilfe eines künstlichen neuronalen Netzes (siehe Seite 237, linke Spalte), dessen Gewichtungswerte durch Lernen bestimmt werden (siehe Seite 237, rechte Spalte).

3.8 Der Gegenstand des Anspruchs 1 wurde dem Fachmann daher durch die Kombination der Lehre von D1 mit seinem allgemeinen Fachwissen bzw. mit der Lehre von D8 nahegelegt; er beruht somit nicht auf einer erfinderischen Tätigkeit (Artikel 56 EPÜ). Dies gilt aus

entsprechenden Gründen auch für den Gegenstand des unabhängigen Vorrichtungsanspruchs 8.

T 0097/14 (Asynchronous web service/ORACLE) of 25.5.2020

European Case Law Identifier: ECLI:EP:BA:2020:T009714.20200525

WEB SERVICE DEVELOPMENT PLATFORM FOR ASYNCHRONOUS WEB SERVICES

Substantial procedural violation - appealed decision sufficiently reasoned (no)
Substantial procedural violation - opportunity to comment (no)
Appeal decision - remittal to the department of first instance (yes

Application number: 02756343.6
IPC class: G06F15/16
Applicant name: Oracle International Corporation

Board: 3.5.01

Cited decisions: G 0010/93

https://www.epo.org/law-practice/case-law-appeals/pdf/t140097eu1.pdf

1. The invention

1.1 The invention concerns asynchronous web services.

1.2 Traditional web services are synchronous i.e. a client calling the web service has to wait for the server to return the result. The client cannot process other tasks while waiting.

Asynchronous web services, on the other hand, do not require the client to wait. The client calls the web service and then goes on to process other tasks. Once the web server has completed, it returns the result in a callback to the client.

The callback is made to a callback address indicated in the original call.

1.3 Claim 1 of the main request reads:

An apparatus comprising:

a storage medium having stored therein a plurality of programming instructions, which when executed cause the apparatus to operate as a server to implement an asynchronous web service by, in use:

receiving a message from a client requesting that a web service method be invoked;

parsing the message to identify the requested web service method, in addition to a callback address indicating a location where the client is listening for callbacks from the web service;

storing the callback address in association with a client proxy object for interacting asynchronously with the client; and

invoking the requested web service method;

the apparatus further comprising at least one processor coupled to the storage medium to execute the programming instructions.

2. The decision under appeal

2.1 The examining division found that the subject-matter of claim 1 of the present main request, corresponding to the first auxiliary request in the decision under appeal, lacked an inventive step (Article 56 EPC) over "synchronous web services", which were said to be "acknowledged prior art" in the background section of the application (see point 2.2 of the decision under appeal).

2.2 Although the **Board cannot find any mention of synchronous web services** in the background section of the application, **it has not been disputed that such web services were well known at the priority date**. In the Board's view, however, **the examining division has failed to provide a reasoned argument why the claimed subject-matter would have been obvious over synchronised web services.**

2.3 In the decision under appeal (see point 2.2), the examining division lists the features of claim 1 which it considers to be known from synchronous web services. However, the decision does not specify which features of a synchronised web service anticipate those features of claim 1. In particular, **it is not clear what, in a synchronous web service context, corresponds to the callback address in claim 1**.

2.4 **A reasoned objection of lack of inventive step must establish the state of the art and set out, in a clear and complete manner, which features of the claimed invention are known from the prior art and where those features can be found in the prior art**. In other words, **a proper feature mapping is required**. This is all the more important when the objection relies on non-documentary prior art, because such evidence is more difficult to verify.

In the Board's judgment, the decision of the examining division fails to meet this requirement.

2.5 The examining division found that the claimed invention differed from the synchronous web service in that the web service was an asynchronous one which used a proxy object for interacting asynchronously with the client. This was considered to be an obvious modification for the skilled person.

In the Board's view, **the decision of the examining division does not sufficiently explain why the skilled person would have modified the known synchronous web service into an asynchronous one.**

The examining division did not rely on a document but rather referred to the skilled person's knowledge; The skilled person was said to have known "how to implement asynchronous communication".

However, **knowing how to implement something does not mean that one would necessarily do so. There has to be a motivation for the skilled person to modify the prior art in the way claimed.**

The appellant had argued that the skilled person would not have considered teachings relating to asynchronous communication in other technical fields. In particular, the skilled person would not have considered the documents D1 and D2, relating to asynchronous remote procedure calls, to be relevant for web services. Instead of considering and replying to this argument, the examining division dropped the reference to D1 and D2 and asserted, without evidence, that the skilled person had knowledge of "asynchronous communications" in general. **This is not a fair way of dealing with the applicant's argument.** The reference to general asynchronous communication rather obfuscates the weakness of the previous reasoning based on D2.

2.6 For the reasons set out above, the Board finds that **the decision under appeal is not sufficiently reasoned.** Furthermore, **the appellant's arguments have not been properly taken into account.** Thus, there has been a violation of both Rule 111(2) and Article 113(1) EPC. ***This is a substantial procedural violation in the sense of Rule 103(1) EPC.***

3. Remittal to the examining division

3.1 In deciding on the appeal, the Board may either exercise any power within the competence of the department which was responsible for the decision under appeal or remit the case to that department for further prosecution (Article 111(1) EPC).

3.2 According to Article 11 RPBA 2020, the Board shall not remit a case unless special reasons present themselves for doing so. As a rule, fundamental deficiencies which are apparent in the proceedings before that department constitute such special reasons.

The substantial procedural violations in this case are, in the Board's judgment, a fundamental deficiency and consequently a special reason for remitting the case.

3.3 In the grounds of appeal, the appellant requested that the Board settle the case in appeal proceedings rather than remit the case to the examining division for further prosecution. Although the request has since then been withdrawn, the appellant certainly had a valid point. **The present application has been pending for 18 years**, and in those circumstances, it would be preferable if the case could be finally settled without further delay.

3.4 However, the Board does not consider itself to be in a position to settle the case for the following reasons:

3.5 **Before granting a patent**, the Board of Appeal, just like the examining division, must ensure that the conditions for patentability exist (see G 10/93, reasons point 3). In order to do so, **the state of the art must be established**.

3.6 The appellant has consistently argued that, since the claimed invention relates to web services, the closest prior art for the purpose of assessing inventive step should be in that field. Consequently, the documents cited in the supplementary European search report and

during examination (D1 and D2), relating to remote procedure calls, were argued to be unsuitable as starting point for inventive step. The examining division seems to have accepted the appellant's arguments, because, during oral proceedings, it discarded D2 as closest prior art and instead argued lack of inventive step starting from synchronous web services.

3.7 **The Board agrees with the appellant that the closest prior art should be in the field of web services.** The Board furthermore finds it inconceivable that "synchronous web services" constitutes a complete representation of the state of the art in that field. The examining division's choice of closest prior art rather seems to have been based on what was available at the oral proceedings when the examining division decided to discard D2.

3.8 The Board notes that the supplementary European search report indicates the field of search as "G06F". This IPC class is defined as "electric digital data processing", which in plain English means computer systems. **In the Board's view, this field of search seems too narrow. A complete search for web services should probably include the field "H04L" ("transmission of digital information" or telecommunications). Indeed, the CPC class H04L67/02 seems relevant.**

3.9 The appellant expressed doubts whether a Board of Appeal was at all competent to review the field of search. The present Board does not have any doubts in this regard. The Board may exercise any power within the competence of the examining division (Article 111(1) EPC). Since the examining division may review the search, so may the Board.

T 2012/17 (Customised application/INTELLIPOCKET) of 2.6.2020

European Case Law Identifier: ECLI:EP:BA:2020:T201217.20200602

Providing a customized application to a user terminal

Application number: 11849211.5
IPC class: G06F17/30, G06F21/00, H04L29/08, G06Q30/02, G07F7/10
Applicant name: Intellipocket OY

Substantial procedural violation - violation of the right to be heard (yes)
Remittal to the department of first instance - fundamental deficiency in first instance proceedings (yes)

Board: 3.5.07

Cited decisions: T 0763/04, T 1557/07

https://www.epo.org/law-practice/case-law-appeals/pdf/t172012eu1.pdf

2. The invention

2.1 The application relates to "web applications" which are to be downloaded to user terminals such as mobile phones. According to paragraph [0018] of the published application, the term web application refers to "a set of information material from which web pages may be constructed". Examples of such information are "images, text, code segments in markup languages such as HTML and XHTML, stylesheets such as CSS, script languages such as JavaScript, video and audio, as well as various browser plug-in content such as Flash, Silverlight and Java Applet content".

2.2 The invention seeks to provide web applications customised to user-specific parameters and terminal-specific properties (paragraph [0006]). Essentially, this is achieved by providing, at an application server, a customisable web application template and, in response to requests specifying user-specific parameters and a user-terminal type, creating the customised web application on the basis of the template, the user-specific parameters and terminal-specific properties corresponding to the user-terminal type.

3. Right to be heard - Article 113(1) EPC

3.1 The right to be heard under Article 113(1) EPC encompasses the right of a party to have its comments considered in the written decision (see decision T 763/04 of 22 June 2007, reasons 4.3 and 4.4). Although a decision does not have to address each and every argument of a party in detail, it must comment on the crucial points of dispute to give the losing party a fair idea of why its arguments were not considered convincing (see decision T 1557/07 of 9 July 2008, reasons 2.6).

3.2 In this case, a crucial point of dispute was whether document D1 disclosed "web applications".

3.2.1 According to the European search opinion, document D1 disclosed a web application in the form of "application 122 to communicate with a web service" on page 5, lines 16 and 17. In its communication dated 1 July 2016 and its decision, the Examining Division additionally referred to page 18, lines 10 to 13.

3.2.2 Throughout the first-instance proceedings, the appellant repeatedly contested that document D1 disclosed web applications.

In its letter of 1 April 2016, it argued that, as evidenced by **document D6**, at the priority date of the application, the term "web application" had a **definition established by the W3C standardisation body.** The Board notes that, according to document D6, the term refers to a web page or collection of web pages delivered over HTTP which uses server-side or client-side processing to provide an "application-like" experience within a web browser.

In its next letter dated 16 January 2017, submitted in response to the summons to oral proceedings before the Examining Division, the appellant reiterated this argument by referring to its previous response.

During the oral proceedings before the Examining Division, the appellant argued that a web application was run within a web browser, was not a stand-alone application and could not be equated to the application 122 in document D1 (see points 8, 9 and 20 of the minutes).

3.2.3 In the contested decision, the Examining Division did not mention the appellant's arguments with respect to the term "web application" but merely referred to the passages on page 5, lines 16 and 17, and page 18, lines 10 to 13, of document D1. The first passage states that "[t]he terminal 100 uses the applications 122 to access or otherwise communicate with a web service 110, or other schema-defined services such as but not limited to SQL databases". The second passage explains that "application generation and customization can be initiated by the user of the terminal 100 discovering the web service 110 using such as but not limited to: a device browser; an email attachment; or a dedicated web service discovery application". **From neither passage is it evident whether the Examining Division considered that the applications 122 satisfied the definition of a "web service" as put forward by the appellant or whether (and why) it took the view that the definition proposed by the appellant, for which document D6 was cited as evidence, was considered too narrow**.

3.3 A further crucial point of dispute was whether document D1 disclosed the claimed step of the application server creating the customised web application ("the following acts performed by an application server ... creating the customized web application based on the template ...").

3.3.1 In its letter dated 16 January 2017, the appellant pointed out that, in document D1, the customisation of the application templates was carried out by the developer/user and not "solely and completely by the application server" as required by claim 1. During the oral proceedings before the Examining Division, the appellant again stressed that, in document D1, customisation was performed by the user (see point 10 and also point 13 of the minutes of the oral proceedings before the Examining Division).

3.3.2 In its decision, however, the Examining Division did not acknowledge the step of the application server creating the customised web application as one of the differences. **Nor did it explain why it disagreed with the appellant on this point.**

3.4 Hence, **the contested decision neither explicitly nor implicitly addresses the appellant's arguments with respect to at least two crucial points of dispute. It follows that the Examining Division infringed the appellant's right to be heard and thus committed a substantial procedural violation.**

3.5 The inventive-step objection being the only ground for the refusal, this procedural violation was causal for the appeal. Reimbursement of the appeal fee under Rule 103(1)(a) EPC is therefore equitable.

T 2496/17 (Accessing spreadsheet objects/PALANTIR TECHNOLOGIES) of 6.5.2020

European Case Law Identifier: ECLI:EP:BA:2020:T249617.20200506

System and method for accessing rich objects via spreadsheets

Novelty - main request (yes)
Remittal to the department of first instance - (yes)

Application number: 12179096.8
IPC class: G06F17/24, G06F17/27
Applicant name: Palantir Technologies, Inc.

Board: 3.5.07

Cited decisions: T 1966/16, T 0731/17

https://www.epo.org/law-practice/case-law-appeals/pdf/t172496eu1.pdf

2. The invention

2.1 The application relates to spreadsheet applications. Paragraph [0003] of the background art section explains that inputting raw financial data into a spreadsheet and analysing such data is cumbersome and error prone because such data is large, includes many dependencies and may not fit well into a spreadsheet's row/column organisation. In addition, the corresponding expressions typically reference a large number of cells, which makes it difficult to locate the source of an error.

2.2 The invention essentially proposes a spreadsheet application that allows users to associate a "data object" with a first cell and to reference that data object together with a parameter of the data object in an expression contained in a second cell. When the expression in the second cell is evaluated, a value is returned for "the selected parameter in relation to the data object" by querying a database.

To input the expression, the user first enters a reference to the first cell. In response, the spreadsheet application displays a list of "suggested parameters associated with the data object". The user then selects one of the suggested parameters. The Board notes that such a mechanism of facilitating user input is known in the art as (context-dependent) "auto-completion" (see documents D5 and D1 to D3).

2.3 In the embodiment described in paragraphs [0078] and [0079] of the description with reference to Figure 3, the first cell "A1" contains the data object "GOOG". The user enters an expression in the second cell "B2" by inputting "A1" and selecting a parameter of the data object "GOOG" from a list of suggestions provided in the dialog box 310 by auto-complete logic 206.

Main request

3. Interpretation of claim 1

3.1 The method of claim 1 essentially corresponds to the invention as described in point 2.2 above.

First, a data object is associated with a first spreadsheet cell in a spreadsheet application running on a first computer. This data object is related to one or more parameters. A value of a parameter "in relation to the data object" can be determined by querying a database at a second computer.

Then, a "first input" forming part of an expression for a second cell is received. This input includes a reference to the first cell. In response to the first input, one or more object parameters are displayed as "suggested parameters" for selection by the user. The selected parameter is associated with the expression, i.e. the expression is auto-completed to include the parameter.

Finally, the autocompleted expression is evaluated to obtain the value to be displayed in the second cell. The evaluation process first "replaces" the first cell reference with the data object associated with the first cell. The resulting "modified expression" is then further evaluated by querying the database at the second computer to determine the value of the selected parameter of the data object.

3.2 In its statement of grounds of appeal, the appellant placed particular emphasis on the claim's "replacement operation". However, in this respect the Board agrees with the Examining Division that paragraph [0076] of the description, on which this feature is based, merely describes the straightforward evaluation of an expression such as "A1.close": first "A1" is evaluated (or "resolved"), which results in "GOOG", then the intermediate "modified" expression "GOOG.close" is evaluated. This is no different from evaluating an expression such as "F1+G3" by first replacing "F1" and "G3" with the values stored in the cells F1 and G3 (for example, 6 and 9) and then evaluating the intermediate "modified" expression "6+9" to obtain 15. The application discloses neither that the intermediate "modified" expression is displayed to the user nor that it is stored in the spreadsheet.

4. Novelty over document D1

4.1 Document D1 relates to the autocompletion of formulas as they are input in spreadsheet cells (see abstract and paragraph [0001]). In its decision, the Examining Division argued that Figure 3 disclosed a spreadsheet in which a data object "<MSFT>", having parameters of a stock ticker symbol such as "CLOSE" and "52WKHIGH", was associated with cell "B1" in the "Stock Ticker" column (referred to in the decision as column "B"). It was clear from Figure 3 that the "Quantity Purchased", "Quantity Sold" and "Purchase Price" columns (referred to in the decision as columns "E", "F" and "H") referenced the "Stock Ticker" column.

4.2 The spreadsheet shown in Figure 3 is mentioned in paragraph [0012] of document D1 but not discussed in any detail. In particular, there is no mention in document D3 of the stock ticker symbols in the "Stock Ticker" column being associated with corresponding data objects or of the cells in the "Quantity Purchased", "Quantity Sold" and "Purchase Price" columns

containing references to cells in the "Stock Ticker" columns. The **skilled person reading document D1 would have had no reason to assume that the cells of the "Stock Ticker" column contain anything other than simple strings, with no underlying logic**. **Nor would he conclude that the cells of the other columns refer to a parameter of a stock ticker data object**. At best, he would infer that the cells in one of the "Quantity Purchased", "Quantity Sold" and "Current Holdings" columns contain an expression referencing the cells in the other two columns (given that the value in "Current Holdings" is the value in "Quantity Purchased" minus the value in "Quantity Sold").

4.3 Hence, the **Examining Division's analysis of document D1 is not based on an objective evaluation of the document's technical disclosure, but is speculative and apparently tainted by hindsight knowledge of the claimed invention.** Therefore, the decision's reasoning is not convincing.

4.4 Since document D1 does not disclose associating a cell of a spreadsheet with a data object and evaluating an expression referencing the cell by querying a database to obtain the value of a parameter of the data object, the subject-matter of claim 1 is new over document D1 (Article 54(1) and (2) EPC).

T 1089/17 (Ambiguous queries on online social networks/FACEBOOK) of 7.2.2020

European Case Law Identifier: ECLI:EP:BA:2020:T108917.20200207

Structuring ambiguous structured search queries on online social networks

Inventive step - all requests (no)

Application number: 13197982.5
IPC class: G06F17/30, G06Q50/00
Applicant name: Facebook, Inc.

Board: 3.5.07

Cited decisions: G 0003/08, T 0641/00, T 0154/04, T 2230/10

https://www.epo.org/law-practice/case-law-appeals/pdf/t171089eu1.pdf

The invention

3. The application relates to social graphs and performing searches for objects within a social-networking environment (description as originally filed, paragraph [1]).

3.1 A social-networking system, which may include a social-networking website, may enable its users (such as persons or organisations) to interact with it and with each other through it. The social-networking system may, with input from a user, create and store in the social-networking system a user profile associated with the user. The user profile may include demographic information, communication-channel information, and information on personal interests of the user. The social-networking system may also, with input from a user, create and store a record of relationships of the user with other users of the social-networking system, as well as provide services (e.g. wall posts, photo-sharing, event organisation, messaging, games, or advertisements) to facilitate social interaction between or among users (description, paragraph [2]).

3.2 Social-graph analysis views social relationships in terms of network theory consisting of nodes and edges. Nodes represent the individual actors within the networks, and edges represent the relationships between the actors (description, paragraph [4]).

3.3 The invention proposes a social-networking system that may, in response to a text query received from a user, generate structured queries that include references to particular social-graph elements. By providing suggested structured queries in response to a user's text query, the social-networking system may provide a way for users of an online social network to search for elements represented in a social graph based on their social-graph attributes and their relation to various social-graph elements (description, paragraph [5]).

For example, when a user enters the ambiguous search term "facebook" as part of the search query "people who like facebook", the online social network may propose several matching elements of the social graph such as "Facebook", "Facebook Culinary Team", "Facebook Camera", "Facebook HQ" or "Facebook Security" to the user for selection (see Figure 4C). If the user then selects one of the proposed matching elements (for example, "Facebook"), the system proposes a set of queries related to the selected graph element (for example, "People who work for Facebook", "People who like Facebook and Stanford"; see Figure 4D), from which the user can select one to be performed.

In claim 1 of each of the requests the matching elements are proposed in the form of a "first set of structured queries corresponding to an identified second node [...]" and the proposed set of queries related to the selected graph element is the "second set of structured queries [...] comprising a reference to the selected second node [...]".

…

Main request

6. The appellant's request

In line with the itemisation used by the Examining Division and the appellant, claim 1 of the main request can be itemised as follows:

1 A method of operating an online social network, comprising:

accessing, by a computing device, a database of the online social network,

1.1 the database implemented as a social-graph database
1.2 comprising a plurality of nodes and a plurality of edges connecting the nodes, each of the edges between two of the nodes representing a single degree of separation between them, the nodes comprising:
2 a first node corresponding to a first user associated with the online social network; and
3 a plurality of second nodes that each correspond to a concept
3.1 or a second user associated with the online social network;
4 by the computing device:
- receiving from a client system of the first user an unstructured text query
4.1 comprising an ambiguous n-gram;
5 - identifying in the social-graph database a plurality of second nodes or a plurality of edges corresponding to the ambiguous n-gram;
6 - generating a first set of structured queries,
6.1 each structured query from the first set of structured queries corresponding to an identified second node or identified edge, the structured query comprising a reference to the identified second node or identified edge;
7 - receiving from the client system of the first user a selected first structured query from the first set of structured queries,
7.1 the first structured query corresponding to a selected second node or selected edge from the identified second nodes or identified edges, respectively; and
8 - generating a second set of structured queries,
8.1 each structured query of the second set of structured queries comprising a reference to the selected second node or selected edge.

6.1 Interpretation of claim 1

In the oral proceedings, the appellant argued, based on the description (paragraph [66]), that the expression "structured query" should be interpreted in a broad manner as meaning a text expression in a natural language that could be presented to users for selection, as users were not expected to be able to read queries in a formal query language. Moreover, structured queries contained references to nodes and/or edges of the social graph. The Board agrees with this interpretation, which is also consistent with the examples of structured queries according to paragraph [74] of the description and Figures 4C and 4D, for example. Thus, in the following, the Board uses this interpretation of "structured query".

Moreover, the appellant submitted that, according to claim 1 of the main request, the minimum requirements for an online social network were that it comprised a computing device and a social-graph database, as was explicitly defined in the claim. The Board accepts this argument in the context of the present case.

Finally, the appellant argued that the references to a "selected" node or edge in feature 7.1 had to be understood as referring to the indirect selection of nodes/edges by selecting a structured query according to feature 7. The Board adopts this view for its assessment of inventive step.

7. The contested decision

In its decision, the Examining Division stated that the subject-matter of claims 1 to 14 of the main request and of each of the first to third auxiliary requests and of claims 1 to 13 of the fourth auxiliary request lacked inventive step in view of a notoriously known general-purpose computer system, known for example from D4, or the prior art disclosed in either of documents D1 or D2 when combined with D4.

7.1 In its statement of grounds of appeal, the appellant argued among other points that the operation and function of the claimed **search engine may be considered to lie in a technical field**. Furthermore, the appellant argued that the assessment of the technical character and inventive step of claim 1 of the main request as presented in the contested decision was improper to an extent such that setting aside the contested decision was justified. Moreover, it argued that no proper search and examination had been provided in relation to the dependent claims.

7.2 The Board agrees with the appellant that not all aspects of the reasoning of the contested decision are convincing. In particular, none of the cited documents discloses a search process which maps natural language text input to elements of a social-graph database in the context of a social network. The Board considers that document D5, which is a patent application by the appellant, is more relevant than the prior art cited by the Examining Division. Consequently, the Board prefers to use document D5 as the starting point for assessing inventive step.

8. Inventive step using D5 as the starting point

8.1 Document D5 discloses an integrated social network environment and a social graph based on the social network environment that includes nodes representing users and concepts in the social network environment as well as edges that define or represent connections between such nodes (paragraph [0002]; Figures 1, 2A, 2B and 3). According to D5, a computing device accesses a database of the online social network (paragraphs [0026] to [0029] and [0059] to [0071]; Figures 2B and 6; claim 1). Hence, document D5 discloses feature 1 of claim 1. As document D5 discloses implementing the database as a social-graph database (see paragraph [0033]; Figure 2B, reference sign 206), it also discloses feature 1.1 of claim 1. Moreover, document D5 discloses a graph structure with nodes and edges according to feature 1.2 (see paragraphs [0016], [0017], [0033] and [0034]; Figure 3), the nodes comprising user and concept nodes as specified in features 2, 3 and 3.1 (see paragraphs [0016], [0017], [0033], [0034] and [0041]; claim 1).

8.1.1 Document D5 discloses in paragraphs [0018] and [0059] to [0062] and Figures 2B and 6 that, when a user enters text into a form box of a graphical user interface on the client computer, a typeahead feature attempts to match the string of textual characters being entered in the form box to strings of characters (for example names) corresponding to existing concepts (or users) and corresponding concept (or user) nodes in the social graph. When a match is found, the typeahead feature automatically populates the form box with a node name (or other identifier) of the existing node and causes an edge to be created between the matching existing node and the user's node (paragraph [0061]).

According to the description of the application (paragraph [67]), an n-gram is a contiguous sequence of n items from a given sequence of text or speech. The items may be characters, phonemes, syllables, letters, words, base pairs, prefixes, or other identifiable items from the sequence of text or speech. Thus, the text entered by a user into a form box according to document D5 can be viewed as an n-gram which is ambiguous in the sense that it may match a plurality of graph elements.

Consequently, D5 discloses features 4, 4.1 and 5 of claim 1.

The Board is aware that feature 4 refers to an "unstructured text query", whereas document D5 refers to filling text into a form box (see D5, Figure 4D, reference sign 442). However, the claim wording covers such a case, and according to the application the query is also filled into a box of a web page (Figure 3 of the application, reference sign 350). Furthermore, the text fragment filled into the form in D5 is used for querying the social-graph database. Hence, the Board is not convinced by the appellant's argument that document D5 did not disclose inputting a text string for the purpose of querying a social graph.

8.1.2 Document D5 discloses, in paragraph [0061] and Figures 4D and 6, that the typeahead process on the client displays a drop-down menu that displays names of matching existing concept profile pages (called "hubs" in D5) and respective nodes (e.g. a hub named "weight lifting" is displayed when a user has entered the characters "wei"). Users can then select the displayed name corresponding to a node. By way of example, upon clicking "weight lifting", the typeahead process causes the web browser to auto-populate the form with "weight lifting". Consequently, document D5 also discloses features 6, 6.1, 7 and 7.1 of claim 1.

The Board agrees with the appellant that document D5 does not disclose *features 8 and 8.1* of claim 1 of the main request.

8.2 The claimed invention therefore differs from the method disclosed in document D5 in that it includes features 8 and 8.1.

8.3 In its statement of grounds of appeal, page 37, third paragraph from the bottom, and page 39, last paragraph, the appellant submitted that the technical effect of the claimed invention was to provide an improved human-machine interaction to guide and support the user as regards querying a social-graph database even if highly ambiguous search queries were involved. In its reply to the Board's communication, the appellant argued that document D5 did not suggest that the typeahead function was used for querying a database. Moreover, D5 did not suggest the claimed two-fold generation of structured queries where a second set of structured queries was generated after a manual disambiguation of search query terms by users.

8.4 However, the Board is not convinced by these arguments in view of its above analysis of document D5 and the following considerations. The distinguishing features 8 and 8.1 generate a second set of structured queries. The queries in this second set contain a reference to a selected node or edge, but are not further defined.

The distinguishing features have the effect of generating a set of exemplary queries regarding a selected element of the social graph. In this respect, the Board observes that the application

discloses **ranking the structured queries based on advertising sponsorship** (description, paragraph [0075]), which seems to suggest that the generated queries may **serve a non-technical purpose and result from business considerations**.

The claimed generation of queries according to features 8 and 8.1 does not contribute to a "further" technical effect. In particular, the Board does not agree that the human-machine interaction is improved, as no interaction between the user and the system after the disambiguation of the entered data is claimed. The distinguishing features do not involve any further interaction or the display of the generated second set of structured queries to the user.

Moreover, the Board considers that defining a natural language query is per se not a technical task, but lies in a non-technical field. As the claim is entirely silent regarding the user interface for entering search queries, the Board is not convinced that the claimed method solves a technical problem in the area of user interfaces.

8.5 The appellant argued that the fact that claimed subject-matter had some relation to "semantic" aspects did not inevitably imply that it was of non-technical character. Non-technical character could only be affirmed if absolutely no further technical considerations, for example related to the database/search engine and their structure and/or function, were involved.

8.5.1 The Board is not convinced that the distinguishing features involve any "further technical considerations" (see opinion G 3/08, OJ EPO 2011, 10, Reasons 13.5.1), as the **generation of the second set of queries is based on non-technical considerations regarding the desired query semantics in the context of the social graph.** The Board observes that the social graph, which is known from document D5, constitutes social data not serving a technical purpose, and the distinguishing features do not define whether or how the social graph as a data structure is used to generate the second set of structured queries.

8.6 The appellant also argued that, according to the Board's decision T 2230/10 of 3 July 2015, points 3.9 and 3.10 of the Reasons, taking the technical structure of the underlying database and/or search engine into account may make a technical contribution. The invention in that case concerned the addition of keywords selected from a user's long-term interest to disambiguate the query. According to the appellant, T 2230/10 held only the specific case where the added keywords were unrelated to the technical structure of the underlying database to be non-technical. In the present case, the situation was different, as the generated search term related to the underlying graph structure of the database.

8.6.1 However, the social graph is already known from document D5, and the distinguishing features 8 and 8.1 define the generation of the second set of structured queries only in terms of non-technical semantic aspects. Consequently, the Board considers that features 8 and 8.1 are not about exercising technical control over the functioning of the search engine in the sense of decision T 2230/10. Hence, the Board is not persuaded by the appellant's arguments.

8.7 In view of the above, the distinguishing features do not contribute to the solution of a technical problem and cannot be considered for the assessment of inventive step (see decision T 154/04 published in OJ EPO 2008, 46, point 5(f) of the Reasons, for example).

For more details regarding the auxiliary requests, please navigate to the full decision via the above link.

T 0886/17 (Displaying review information in priority order/Rakuten) of 6.3.2020

European Case Law Identifier: ECLI:EP:BA:2020:T088617.20200306

Information processing device, information processing method, information processing program, and storage medium having information processing program stored thereon

Inventive step - all requests (no)

Application number: 12802228.2
IPC class: G06F17/30, G06Q30/02
Applicant name: Rakuten, Inc.

Board: 3.5.07

Cited decisions: T 0258/97, T 0641/00, T 1351/04, T 1741/08, T 2045/10, T 2230/10, T 1375/11, T 1802/13, T 0598/14, T 1187/15, T 2227/15, T 0032/16, T 0634/16, T 1442/16, T 1597/16, T 0278/17, T 0697/17

https://www.epo.org/law-practice/case-law-appeals/pdf/t170886eu1.pdf

This decision raises an interesting point with regards to the technical contribution when improving ergonomics. Only this aspect is extracted here.

In its statement of grounds of appeal, the appellant argued that the priority order reflected the user's interest because it was based on the search condition. Review information in which a user was very interested was preferentially displayed among pieces of review information of transaction targets.

In its reply and at the oral proceedings, the appellant argued that an important distinguishing feature of claim 1 related to using the same search condition used to search the transaction targets to determine the priority order (as specified in feature (b)), and that this produced three technical effects.
…
The second effect, improved ergonomics, was achieved by requiring the user to enter the search condition only once, which resulted in fewer mouse clicks or key press operations. Since this related to physical movement, it was technical. In the prior art, the search results were first displayed and then the user had to select one of the displayed search results and scroll down to the "reviews" section. Typically, the user had then to click "see all reviews" in

order to go to a page showing a number of reviews. This page had options to order the reviews. The user had to enter the search term again to sort the review information.

5.4.2 With regard to the second alleged technical effect, the appellant cited decision T 1375/11 of 31 March 2016, which affirms that it is well established by the Boards of Appeal that improving ergonomics is technical (Reasons 4.4). In that decision, the invention was considered to solve the problem of avoiding the fatigue caused by the repetitive movements of the user's eyes and head necessary to follow the displayed game, which were physiological aspects (Reasons 4.2 to 4.7). However, in the present case, there are no repetitive movements of the head and eyes or other physiological factors.

When **assessing the presence of a credible technical effect in inventions involving presentations of information, a distinction has to be made between subjective psychological factors and objective physiological factors** (T 1375/11, Reasons 4.6; T 1442/16, Reasons 1.8). Furthermore, it is established jurisprudence of the Boards of Appeal that "lowering the cognitive burden of a user" per se cannot as a rule be considered a technical effect (T 1802/13 of 10 November 2016, Reasons 2.1.7; T 1741/08 of 2 August 2012, Reasons 2.1.6).

In the present case, the allegedly achieved reduction in user interaction steps depends on cognitive aspects, and the Board is not convinced that the use of the search condition for determining the priority order is primarily based on technical considerations regarding ergonomics. If that order were not relevant for the user, then sorting the information according to that order would potentially result in more user interaction steps. As mentioned by the appellant, the priority order is chosen so that review information in which a user is very interested is preferentially displayed among pieces of review information of transaction targets. In that way, the user can grasp information more easily or find information with less effort. However, as argued in the decision under appeal, those are effects that remain at the cognitive level and are subjective. Therefore, the priority order and the presentation aspects of features (b) and (c) do not have to be considered in the assessment of inventive step. If a technical problem is solved, these aspects can be included in the formulation of the technical problem (T 641/00, OJ EPO 2003, 352, Reasons 7).

If it is assumed, in line with the appellant's argument, that the invention contributes to the technical effect of facilitating user interactions, then features (b) and (c) constitute an advantageous solution to the problem of modifying the notorious information retrieval system to display the pieces of review information according to a priority order determined by the "correspondence between the search condition and the pieces of review information".

However, it is standard practice in user interface design to minimise the number of interactions. Knowing that the priority order is based on the search condition, it is thus obvious for the skilled person to reuse the search condition to generate and immediately display the ordered list instead of requiring further input from the user. Modifying the notorious information retrieval system to determine a specific priority order and generating and displaying the list in that order as defined in features (b) and (c) involves only ordinary programming skills. Hence, regardless of whether features (b) and (c) are technical, they are obvious.

T 0547/14 (Verfahren zur Vorhersage von Schimmelpilzbildung/FRAUNHOFER) of 29.1.2020

European Case Law Identifier: ECLI:EP:BA:2020:T054714.20200129

VERFAHREN ZUR VORHERSAGE VON SCHIMMELPILZBILDUNG

Erfinderische Tätigkeit - technische und nicht-technische Merkmale
Erfinderische Tätigkeit - Unterschiedsmerkmale sind nicht notorisch
Zurückverweisung an die erste Instanz - (ja)

Anmeldenummer: 02794505.4
IPC-Klasse: G06F 17/60
Name des Anmelders: Fraunhofer-Gesellschaft zur Förderung der angewandten

Kammer: 3.5.01

Angeführte Entscheidungen: T 0365/05, T 1227/05, T 0421/06
Anführungen in anderen Entscheidungen: T 0275/15, T 1616/18

https://www.epo.org/law-practice/case-law-appeals/pdf/t140547du1.pdf

Anspruch 1 des Hauptantrages lautet wie folgt:

"Verfahren zur Vorhersage von Schimmelpilzbildung auf einem Gegenstand, beispielsweise einem Bauteil, indem experimentell und/oder mit einem Computer bestimmte biologische Auskeimungsbedingungen und/oder Wachstumsvoraussetzungen für einen oder mehrere Schimmelpilze mit den auf dem Gegenstand auftretenden experimentell und/oder mit einem Computer bestimmten hygrothermischen Bedingungen verglichen werden und daraus bestimmt wird, ob die Auskeimungsbedingungen und/oder Wachstumsvoraussetzungen auf dem Gegenstand gegeben sind, mit den folgenden Schritten:

- Bestimmung des Temperatur- und relativen Feuchteverlaufs auf dem Gegenstand,

- Bestimmung eines Wassergehalts einer Spore auf dem Gegenstand und

- Bestimmung, ob der Wassergehalt der Spore im Laufe der Zeit den für die Auskeimung und/oder Wachstum erforderlichen Wassergehalt (Grenzwassergehalt) erreicht oder überschreitet."

1. Hintergrund der Erfindung

1.1 Die Erfindung betrifft ein Verfahren zur Vorhersage von Schimmelpilzbildung auf einem Gegenstand, u.a. einem Bauteil von Gebäuden. Die Beseitigung von Schimmelpilz führt zu erheblichen Sanierungskosten und beim Einsatz von Bioziden kann eine

Gesundheitsgefährdung nicht ausgeschlossen werden. Es geht also darum, die Entstehung von Schimmelpilz zu vermeiden, Seite 1 der Anmeldung.

1.2 Gemäß der Beschreibung, Seite 2, zweiter Absatz, der Patentanmeldung hat die Erfindung erkannt, dass nicht nur die relative Feuchte in Abhängigkeit von der Temperatur Schimmelbildung begünstigen kann, sondern, dass auch das Substrat, der Baustoff oder die Verschmutzung, ebenfalls einen Einfluss haben. Das Pilzwachstum wird begünstigt, wenn die drei wesentlichen Wachtstumsvoraussetzungen, wie Temperatur, Feuchte und Substrat, über eine bestimmte Zeitperiode simultan vorhanden sind.

1.3 Aus der Kenntnis der hygrothermischen Bedingungen und deren zeitlicher Veränderung kann eine Aussage zur Sporenauskeimung und zum Myzelwachstum für Schimmelpilze abgeleitet werden. Die Abhängigkeit der Sporen-auskeimung und des Myzelwachstums von der Oberflächen-temperatur und -feuchte wird in sogenannten "Isoplethensystemen" beschrieben und für unterschiedliche Substratgruppen (0, I, II, III) bestimmt, siehe Seite 5, Zeile 6, bis Seite 7, Zeile 18, der Beschreibung, um den Einfluss des Substrats berücksichtigen zu können. Mit Hilfe dieser Isoplethensysteme für die Sporenauskeimung für Pilze der unterschiedlichen Substratgruppen (I und II), siehe Abbildungen 1A und 1B, sowie Gefährdungsklassen (A und B/C), siehe Abbildungen 2A und 2B, ist es möglich, den Grenzwassergehalt im Sporeninneren festzulegen, an dem die Sporenkeimung als abgeschlossen betrachtet werden kann und das Schimmelwachstum beginnt.

1.4 Das erfindungsgemäße **biohygrothermische Verfahren ermöglicht die Vorhersage von Schimmelpilzbildung auf Basis der biologischen Wachstumsvoraussetzungen. Es besteht aus zwei aufeinanderfolgenden Schritten, nämlich der Erzeugung geeigneter Isoplethen und der Anwendung dieser Isoplethen auf ein instationäres biohygrothermisches Modell des zu untersuchenden Bauteiles. Damit ist es möglich, auch ein zwischenzeitliches Austrocknen der Pilzsporen zu berücksichtigen.**

2. Hauptantrag

Artikel 52 (2) und (3) EPÜ

3. Die Prüfungsabteilung befand den Gegenstand des Anspruches 1 des Hauptantrages ohne das Merkmal "mit einem Computer" als ein Verfahren, das unter die Ausschlussbedingungen des Artikels 52 (2) und (3) EPÜ fällt.

3.1 Die Prüfungsabteilung führte an, dass sich die Merkmale des Anspruches 1, die sich auf eine experimentelle Bestimmung biologischer Auskeimungsbedingungen für Schimmelpilze beziehen, nicht von einer rein intellektuellen Tätigkeit unterscheiden, da die "experimentelle" Bestimmung technisch nicht spezifiziert sei und durch eine reine kognitive Beobachtung erfolgen könne.

3.2 Im Hinblick auf die drei Verfahrensschritte des Anspruches 1 argumentierte die Prüfungsabteilung, dass der erste Schritt, die Bestimmung des Temperatur- und Feuchteverlaufs auf dem Gegenstand, wie auch der dritte und letzte Schritt, die Bestimmung, ob der Wassergehalt der Spore im Laufe der Zeit den für die Auskeimung und/oder Wachstum erforderlichen Wassergehalt erreicht oder überschreitet, rein intellektuell

ausgeführt werden könne, wohingegen der zweite Schritt, die Bestimmung eines Wassergehalts einer Spore auf dem Gegenstand, einen biologischen Prozess beschreibt, der nicht technisch sei.

3.3 Die Beschwerdeführerin argumentierte, dass alle Verfahrensvarianten des Anspruches 1, also auch ohne den Einsatz eines Computers zur Bestimmung von Auskeimungsbedingungen, drei Verfahrensmerkmale enthielten, die jedes für sich genommen technischen Charakter hätten, da physikalische Größen experimentell bestimmt würden.

3.4 Die **Kammer stimmt der Beschwerdeführerin zu, dass Anspruch 1, mit und ohne dem Einsatz eines Computers zur Bestimmung von Auskeimungsbedingungen, drei Verfahrensmerkmale enthält, die jedes für sich genommen technischen Charakter aufweisen.** Die Prüfungsabteilung geht irrig in der Annahme, dass es sich bei dem ersten und dritten Schritt um eine "intellektuelle Bewertung" handelt. **Anspruch 1 verweist explizit auf eine Bestimmung von physikalischen Größen, wie Temperatur, Feuchtigkeit und Wassergehalt.**

3.5 Anspruch 1 verlangt den Vergleich von biologischen Auskeimungsbedingungen und/oder Wachstumsvoraussetzungen für einen oder mehrere Schimmelpilze mit den auf dem Gegenstand auftretenden hygrothermischen Bedingungen. Die hygrothermischen Bedingungen sind nach Seite 3, Zeilen 14 bis 21, durch ein Isoplethensystem beschrieben, das im Fall der Vorhersage von Sporenkeimung Sporenauskeimungszeiten in Abhängigkeit von Temperatur und der relativen Feuchte angibt (Schritt 1). Temperatur und relative Feuchte werden dabei u.a. messtechnisch ermittelt, siehe Seite 4, Zeilen 25 bis 29, und Seite 9, Zeilen 1 bis 4, wo Daten aus "Messungen" gewonnen werden. Die biologischen Auskeimungsbedingungen sind gegeben, wenn der Wasser-gehalt im Sporeninneren einen Grenzwassergehalt erreicht, siehe Seite 8, Zeilen 1 bis 16.

3.6 **Werden diese "experimentell" bestimmt, so ist eine Durchführung von Experimenten notwendig und damit der Einsatz technischer Mittel vorausgesetzt. Die Kammer stimmt hierin mit der Beschwerdeführerin überein, dass der beanspruchte Gegenstand damit technisch ist. Wird ein Computer eingesetzt, so ist der Gegenstand mit dem Einsatz dieses technischen Mittels ebenfalls technisch.**

3.7 Es ist für die Beurteilung der Technizität des beanspruchten Verfahrens unerheblich, **welche Details die Anmeldung zur technischen Umsetzung der beanspruchten experimentellen Bestimmung enthält**. Dies wäre Gegenstand einer Beurteilung der Ausführbarkeit (Artikel 83 EPÜ). **Die Kammer kann ebenfalls nicht nachvollziehen, auf welcher Grundlage die Prüfungsabteilung zu dem Schluss kam, dass Biologie kein technisches Gebiet darstelle**. Es handelt sich beim beanspruchten Verfahren auch nicht um ein biologisches Verfahren nach Artikel 53 b) EPÜ oder Regel 28 EPÜ.

3.8 Die Prüfungsabteilung verwies in Ihrer Argumentation auf die Entscheidungen T 1227/05, T 421/06 und

T 0365/05. Sie argumentierte, dass die Simulation eines technischen Gegenstandes im Sinne von T 1227/05, Entscheidungsgründe 3.2.1 und 3.2.2, und T 421/06, nicht vorliege, da allenfalls ein biologischer Vorgang simuliert werde. Die Entscheidung T 0365/05 komme der

beanspruchten Erfindung näher, da sie einen biologischen Vorgang (Produktion von Milch) betreffe. Die Prüfungsabteilung argumentierte, dass der Einsatz eines mathematisches Modells eines biologischen Vorganges nicht technisch sei, Entscheidungsgründe 5.8 und 5.10.

3.9 In der Entscheidung T 0365/05 wurde im Anspruch 1 explizit die Verwendung eines mathematischen Modells für Herdenmanagement beansprucht. Das Modell diente dazu, Informationen über die aktuelle Milchproduktion bereitzustellen, die dann von einem Menschen verwendet werden können, um über das Schlachten von Tieren bzw. deren Aufzucht zu entscheiden. Die Kammer in der damaligen Besetzung befand, dass die Berechnung von Daten und die Speicherung von modifizierten Daten keinen technischen Effekt hätten und nicht zur erfinderischen Leistung beitragen können. Da sowohl dem Modell zum Herdenmanagement als auch einer anschließenden Anpassung der Herde z.B. durch rein organisatorische Maßnahmen lediglich kognitive Daten zur Milchproduktivität zugrunde lagen, jedoch keine experimentelle Ermittlung von physikalischen Größen erfolgte, kann schon aus diesem Grund der dortige Sachverhalt nicht auf den vorliegenden beanspruchten Gegenstand übertragen werden.

3.10 In der vorliegenden Erfindung kommt ein Isoplethensystem zum Einsatz, was im Lichte der Beschreibung einem mathematischen Modell entspricht. **Dieses wird zur Bestimmung des Wassergehaltes einer Spore (Schritt 2) auf einem Substrat verwendet, was einem technischen Effekt entspricht**. Das Modell beschreibt physikalische Zusammenhänge, d.h. die Abhängigkeit der Sporenkeimung bzw. des Myzelwachstums von der Oberflächentemperatur und -feuchte, und es werden Modelle für unterschiedliche Substrate bestimmt. Sowohl bei der Modellberechnung, wie auch bei deren Anwendung, dienen Temperatur und relativer Feuchteverlauf als physikalische Eingangsgrößen.

3.11 Die Kammer ist daher der Meinung, dass die Schlussfolgerungen aus T 0365/05 nicht auf den aktuellen Fall übertragen werden können, da die Fälle unterschiedlich gelagert sind. Zudem wurde in der angeführten Entscheidung keine Stellung zu Artikel 52 (2) und (3) EPÜ genommen, sondern nur zu Artikel 56 EPÜ, wobei in

T 0365/05 druckschriftlicher Stand der Technik vorlag, anhand dessen die Prüfung auf erfinderische Tätigkeit erfolgte.

3.12 Der **Anspruch 1 des Hauptantrages hat dementsprechend technischen Charakter. Er löst auch eine technische Aufgabe** und ist nicht nach Artikel 52(2)c) und (3) EPÜ von der Patentierbarkeit ausgenommen.

4. Artikel 56 EPÜ

4.1 Da die Technizität der Verfahrensschritte des Anspruches 1 anzuerkennen ist, sind diese Schritte bei der Prüfung der erfinderischen Tätigkeit zu berücksichtigen.

4.2 Selbst wenn, wie in einem "obiter dictum" erwähnt, die Verwendung von Instrumenten zur Bestimmung des Temperatur- und relativen Feuchteverlaufs auf einem Gegenstand notorisch bekannt wären, so ist deren **Verwendung im Zusammenhang mit technischen Parametern wie biologischen Auskeimungsbedingungen und Grenzwassergehalt in**

Verbindung mit einem Computer nicht unbedingt naheliegend, insbesondere ohne jeglichen Stand der Technik zur Verfügung zu haben.

4.3 Nach **Ansicht der Kammer gehen die vorgenannten Unterscheidungsmerkmale über das bloße Allgemeinwissen (zum Beispiel die übliche Verwendung eines Computers) hinaus und können nicht als "notorisch" angesehen werden**. Die Verarbeitung und Speicherung von Daten mag zwar zu den üblichen Verwendungen eines Standard-PC gehören, allerdings ist der Einsatz eines derartigen PCs zur Durchführung des beanspruchten Verfahrens, insbesondere der einzelnen Schritte des Verfahrens, die als technisch zu werten sind, nicht offensichtlich.

4.4 Somit kann der vorliegende Anspruch 1 ohne Kenntnis des einschlägigen dokumentierten Stands der Technik nicht endgültig in Bezug auf erfinderische Tätigkeit beurteilt werden. Es ist daher eine Recherche nach dem relevanten Stand der Technik zwingend erforderlich.

T 2573/16 (OLAP-cube specification/ACCENTURE GLOBAL SERVICES) of 6.11.2019

European Case Law Identifier: ECLI:EP:BA:2019:T257316.20191106

Flexible cube data warehousing

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

Application number: 10008570.3
IPC class: G06F 17/30
Applicant name: Accenture Global Services Limited

Board: 3.5.07

Cited decisions: G 0001/04, T 0154/04, T 1954/08, T 0817/16, T 0697/17

https://www.epo.org/law-practice/case-law-appeals/pdf/t162573eu1.pdf

2. The application

2.1 The application relates to online analytical processing (OLAP). OLAP software tools allow multidimensional analytical queries of a database to be answered quickly by means of "OLAP cubes", which provide multidimensional views of data (paragraphs [0002] and [0003] of the description as originally filed). An OLAP cube is a data structure that has a number of "dimensions" (such as "time", "product", "location") and which contains a data value (a "measure") in each cell as defined by the dimensions selected for a view (paragraphs [0003] and [0004]).

2.2 According to paragraph [0005] of the application's background section, **at the priority date it was conventional for a "technical solution team" to define the OLAP cube**. If users, such as business analysts, wanted to change the cube, for example by adding or removing dimensions, the **changes had to be implemented by the technical solution team in a cumbersome process involving burdensome back-and-forth communications**.

2.3 The application essentially proposes an "OLAP specification system" that allows users to specify a new OLAP cube by modifying an existing "OLAP cube template" (paragraphs [0006] and [0015]).

Main request

3. The invention as defined by claim 1

3.1 Claim 1 of the main request is directed to an "OLAP specification system" that comprises an OLAP-cube template determination module, a metadata copy module, a viable-options generation module, and a metadata receipt module.

3.2 The OLAP-cube template determination module allows a user to select an OLAP-cube template from an OLAP-cube template data store (see paragraph [0020]). It retrieves a "template metadata file" that defines the structure of the OLAP cube of the selected OLAP-cube template.

Hence, an OLAP-cube template is essentially a sample OLAP-cube structure that is intended to be modified by the user. The template metadata file is a file that contains the specification of this structure (in some unspecified format).

3.3 The metadata copy module creates a "base metadata file" from the template metadata file.

Paragraph [0021] discloses that this module creates the base metadata file simply by copying the template metadata file. The base metadata file is intended to be modified by the user.

3.4 As explained in paragraph [0022], the viable-options generation module presents the user with a number of possible modifications of the OLAP cube as "viable options". Modifications are performed by changing the metadata of the base metadata file or inserting new metadata.

Modifications include adding, removing or changing dimensions, categories and hierarchies; modifying the order of dimensions; and specifying the order of categories in a dimension and its hierarchies.

Which options are "viable" is determined by "predetermined rules". One of these rules is a rule that specifies that certain levels of a dimension (such as the "years", "month" and "quarters" levels of the "time" dimension) have to stay grouped in a view.

3.5 The metadata receipt module allows the user to indicate a modification to be made to the metadata in the base metadata file on the basis of the presented viable options. This results in a modified base metadata file which defines the new/modified structure of an OLAP cube.

3.6 Claim 1 further specifies that the OLAP specification system "is configured to perform subsequent operations on the new OLAP cube". Examples of such operations are slicing and drill-down operations (paragraph [0027]).

The OLAP specification system's four modules, discussed in points 3.2 to 3.5 above, allow the user to create a new metadata file that defines the structure of an OLAP cube. Operations such as slicing and drill down are not performed on such a metadata file but on an instantiated OLAP cube that is populated with data.

Hence, the OLAP specification system of claim 1 provides two distinct types of functionality. First, it allows the user to create a metadata file that specifies the structure of an OLAP cube. Second, it allows the user to view data through an OLAP cube corresponding to the newly created metadata file. The first type of functionality is implemented by means of the four modules. The implementation of the second type of functionality is not detailed in the claim.

4. The Examining Division's reasoning

4.1 The Examining Division argued, in point 10.1.1.1 of its decision, that claim 1 of the then main request was essentially directed to a scheme (the decision uses the term "rationale") for defining the structure of a new OLAP cube by modifying existing OLAP-cube templates on the basis of a set of predetermined rules that specify "modifiable aspects of dimensions of the new OLAP cube". Although the decision appears not to say so explicitly, let alone to give reasons why, the Board understands that this scheme was considered to be non-technical.

The Examining Division argued, in points 10.1.1.2 and 10.1.1.3, that claim 1 was silent on the details of the technical implementation of that scheme and that it could be implemented using standard components such as a commonly known general-purpose computer, a graphical user interface and a network interface. It therefore had to be determined which of the non-technical features made a technical contribution (point 10.1.1.4).

Point 10.1.1.5 of the decision essentially repeats point 10.1.1.3 by stating that the only technical aspects present in claim 1 were the feature specifying that the metadata receipt module was "configured to receive input via a user interface", which implied the use of a general-purpose computer, and the features relating to "files", which were to be interpreted as "electronic data files in a computer memory" of that general-purpose computer. All other aspects of claim 1 were non-technical in nature and therefore formed "part of a given framework within which the technical problem [was] posed, for example in the form of a requirements specification provided to the person skilled in a technical field".

The Examining Division, in points 10.1.1.6 and 10.1.1.7, then argued that a notoriously known general-purpose computer could be regarded as the closest prior art and that the features distinguishing the claimed invention from this closest prior art made no technical contribution because they were either part of the non-technical requirements specification or achieved no technical effect going beyond the well-known and normal physical interactions between a program and a computer. Since there was no technical contribution to the art, the subject-matter of claim 1 lacked inventive step.

4.2 Although in many cases the implementation of a non-technical scheme on a general-purpose computer results in subject-matter that is obvious, this is not inevitably the case. As the Examining Division essentially stated in point 10.1.1.4 of its decision, non-technical features are to be taken into account in the assessment of inventive step to the extent that they interact with the technical subject-matter of the claim to solve a technical problem or bring about a technical effect (see G 1/04, OJ EPO 2006, 334, reasons 5.3; T 154/04, OJ EPO 2008, 46, reasons 5, under (F), and 13 to 15). It therefore **still has to be analysed whether, and to what extent, the non-technical scheme, when implemented on a computer, produces a technical effect over that computer**.

4.3 From the logic of the decision's reasoning, it appears that point 10.1.1.5 is supposed to represent this analysis. But there, the Examining Division merely re-examined the wording of the claim to distinguish, once more, between technical and non-technical features. It **did not explain why the non-technical features, when implemented on a computer, made no contribution to a technical effect, for example by analysing the functionality of the claimed system as a whole and any effects put forward by the appellant**.

4.4 The closest to such an analysis appears to be the second paragraph of point 10.1.1.2, which states that "effects stemming from the algorithmi[c] definition of a method do not define a technical character of the corresponding features" and refers to decision T 1954/08 of 6 March 2013, reasons 6.2, which argues that "the sole processing speed" of a computer-implemented algorithm and "the sole amount of memory" it requires are not suitable criteria for determining whether or not a method step contributes to the solution of a technical problem.

However, **these statements in decision T 1954/08 cannot be taken to mean that any effect resulting from the implementation of a non-technical feature or combination of features is non-technical. If non-technical features could not contribute to a technical effect because they are non-technical, there would be no need for the analysis referred to in point 4.2 above.**

At the same time, just because non-technical features, when implemented on a computer, almost inevitably have some effect on physical quantities such as processing time and memory usage, this does not mean that any such physical effect qualifies as a technical effect for the purpose of assessing inventive step. **Something more is needed**, for otherwise any computer program feature would make a technical contribution when the computer program is executed. In the Board's view, this is how point 6.2 of the reasons of T 1954/08 is to be understood. This line of reasoning has been developed further in later decisions (see, for example, decisions T 817/16 of 10 January 2019, reasons 3.6, 3.7 and 3.12; and T 697/17 of 17 October 2019, reasons 5.2.3 and 5.2.4).

4.5 In sum, the contested decision's inventive-step reasoning is incomplete as it stands, and the general approach to assessing inventive step taken in the decision is prone to overlook technical contributions made by non-technical features.

5. The Board's assessment of inventive step

5.1 There can be **no doubt that the claimed OLAP specification system is a physical (computer) system in any reasonable interpretation and does not encompass entirely non-technical "systems" such as organisational schemes (e.g. a patent system).** This is already clear from the four "modules" it comprises and is confirmed by the claim's references to files, presentation of options and receipt of input via a user interface based on the presented options, and also by the feature specifying that the system is configured to perform operations on the new OLAP cube. Hence, the subject-matter of claim 1 is not excluded from patentability as a "non-invention" under Articles 52(2) and (3) EPC.

5.2 As discussed in point 3.6 above, the claimed OLAP specification system allows a user not only to create a metadata file that specifies the structure of an OLAP cube but also to view data through an OLAP cube corresponding to the newly created metadata file.

At the oral proceedings before the Board, the appellant agreed with the Board that the latter type of functionality corresponds to the functionality of the conventional OLAP system described in paragraphs [0002] to [0005] of the background section of the application. This conventional OLAP system allows a user to view data through and perform operations on OLAP cubes defined by a "technical solution team" in accordance with the user's wishes. The OLAP-cube definition provided by the technical solution team must somehow be stored as a "metadata file" and be instantiated by the conventional OLAP system.

Further evidence of such prior art is given by document D1, which discloses, in paragraphs [0099] to [0102] and Figures 5A to 5D, a GUI-based process for defining an OLAP cube structure.

5.3 The system of claim 1 differs from the prior-art OLAP system in that it comprises the four modules listed in claim 1, which together implement the "OLAP specification" functionality that is the focus of the application. This functionality allows the system's user to specify the metadata file that, in the prior-art OLAP system, is received from the external technical solution team.

The Board agrees with the Examining Division that each of the four modules can be implemented by suitably programming a general-purpose computer having conventional input/output means such as a keyboard, mouse and display. It has to be determined to what extent these software features interact with the technical features of the claim to achieve a technical effect over the prior-art OLAP system.

5.4 The overall effect of the four modules is the generation of a metadata file which defines the structure of an OLAP cube and which is to be used by the claimed system's conventional OLAP functionality.

This generated metadata file cannot be technically distinguished from the metadata file produced by the technical solution team of the prior art: the four claimed modules do not ensure any special property of the generated metadata file that translates into a technical effect, occurring when the file is used by the system's conventional OLAP functionality, that is different from the technical effects that occur when a metadata file produced by a technical solution team is processed.

Indeed, the only feature imposing a specific limitation on the generated metadata file is the rule "that certain levels of a dimension must stay grouped in a view", but this rule merely implements non-technical requirements such as the above-mentioned requirement that "years", "month" and "quarters" levels of the "time" dimension must not be separated. Although the rule influences the results of queries executed against the specified OLAP cube, this is not a technical effect but rather the consequence of a non-technical requirement not based on technical considerations (see also T 817/16, reasons 3.12). For the same reason, the Board is not convinced by the appellant's argument that the generated metadata file is technically distinguished from an existing metadata file because the corresponding OLAP cubes may have different dimensions.

Hence, the **generated metadata file does not represent a technical effect achieved over the prior-art OLAP system**. Any technical effect is thus to be found in the generation process itself.

5.5 The **generation process implemented by the four modules is largely based on a non-technical, clerical process**: the user chooses a template metadata specification and modifies it by carrying out a number of modifications that comply with one or more predetermined rules, where one of the predetermined rules includes a rule to specify that certain levels of a dimension must stay grouped in a view.

The four modules implement this non-technical process in a straightforward manner:

- the OLAP-cube template determination module is configured to allow the user to select a template metadata specification and to retrieve the corresponding metadata file;

- the metadata copy module is configured to create a copy of the retrieved file for further modification;

- the viable-options generation module is configured to present modification options that comply with the predetermined rules, where one of the predetermined rules includes a rule to specify that certain levels of a dimension must stay grouped in a view;

- the metadata receipt module is configured to allow the user to select a modification and to carry out the selected modification.

Indeed, **the only technical features here relate to reading and writing data from and to files and the use of implicit input and output devices for receiving input from and presenting information to the user. Since these features are well known and are used for their normal purpose, they do not support an inventive step.**

5.6 The appellant's argument that there were many ways to begin creating a new OLAP cube and that claim 1 taught the skilled person to start from a template metadata file and make a copy of the file has no bearing on this finding because **the existence of alternative approaches to generating a metadata file is unrelated to the (lack of) technicality of the generation process implemented by the claimed invention.**

5.7 The appellant also argued, with respect to the OLAP-cube template determination module, that the "structure of the OLAP cube" was essentially the schema of an OLAP cube, and that storing a schema in its own file was a (technical) implementation detail, in particular because schemas were generally stored in a central metadata table or a data dictionary and because how data was stored in a database system was technical.

As explained in point 5.2 above, the Board considers that in the prior-art conventional OLAP system, the OLAP-cube structure defined by the technical solution team is already provided as a "metadata file".

5.8 In sum, since **the features distinguishing the claimed invention from the prior-art OLAP system amount to the straightforward and thus obvious implementation of a non-technical process**, the subject-matter of claim 1 lacks inventive step (Article 56 EPC).

T 2948/18 (Plant maintenance/SIEMENS) of 25.11.2019

European Case Law Identifier: ECLI:EP:BA:2019:T294818.20191125

Plant maintenance technology architecture

Inventive step - (no)

Application number: 01957609.9
IPC class: G06F 17/00
Applicant name: Siemens Aktiengesellschaft

Board: 3.5.07

Cited decisions: T 1242/04, T 0506/08, T 0779/11

https://www.epo.org/law-practice/case-law-appeals/pdf/t182948eu1.pdf

4. The invention as defined by claim 1

4.1 Claim 1 relates to a method of "applying and/or improving" maintenance services to plants.

The method defines steps of providing an electronic "process description manual", a "knowledge database" and "hardware and software tools for providing maintenance services to plants".

The **process description manual, the knowledge database and the hardware and software tools are "all interlinked to one another**".

The process description manual comprises a "collection of operative business and maintenance processes".

The software tools are "installed in the plant" or are "accessible over a network connection". They are "chosen utilizing shared information found in the process description manual and the knowledge database".

4.2 The content of the process description manual according to one embodiment is described on page 10, line 14, to page 14, line 15, of the published application with reference to Figures 6 to 11. It is clear from this description that the manual may contain purely cognitive information to be read and processed by humans, such as "a section on the theory of management technology and then a portion on marketing" (page 10, lines 16 to 18) or "a bid preparation section for the plant" (page 11, lines 1 and 2).

4.3 The content of the knowledge database is described on page 14, lines 16 to 27, with reference to Figure 12. The knowledge stored in the database encompasses purely cognitive information for human consumption, such as "diagnostic data for analysis of know-how, diagnostic models, forecasting and cost/benefit models", together providing "maintenance decision support" (page 14, lines 16 to 19).

4.4 The claim's "software tools" are illustrated in Figure 13 and described on page 14, line 28, to page 15, line 3. They include "maintenance management systems", "maintenance decision support", "conditioned monitoring systems", "digital control systems", "strategy optimization systems", "enterprise resource planning", "manufacturing resource planning" and "engineering data management".

The application describes none of these software tools in any detail, but the appellant did not dispute that they had been well known in the art at the priority date of the application. In addition, most of these tools provide non-technical functionality ("management", "decision support", "strategy optimization", "planning") and the remaining tools provide, at best, unspecified technical functionality ("conditioned monitoring", "digital control").

Another example of a software tool is a well-known word processor program (page 2, lines 28 to 30).

4.5 The application does not give any examples of "hardware tools". Again, the appellant did not dispute that such tools had been well known in the art at the priority date of the application.

4.6 The "interlinked" feature refers to the "links" 70, 72 and 74 mentioned on page 8, lines 3 to 6, and shown in Figure 4 (corresponding to the arrows in Figure 1, mentioned on page 5, lines 8 to 13). The **application does not explain what those links are or what they do**. The appellant did not contest that hyperlinks are an example of such links.

4.7 The feature specifying that the software and hardware tools are "chosen utilizing shared information found in the process description manual and the knowledge database" is supported only by the passage on page 5, lines 24 to 29, which explains that the tools are "chosen utilizing shared information from the global and regional information found in the

manual 10 and the database 12, so that a best of class tool set is made available at the local level via a stand alone application, a server-based network connected application or via a web-based ASP (application service provider)".

Thus, this feature states that the available tools have been chosen on the basis of information contained in the process description manual and the knowledge database. The description suggests that, as a result, they form a "best of class tool set".

5. Inventive step

5.1 In view of the discussion in points 4.4 and 4.5 above, "hardware and software tools for providing maintenance services to plants" were well known in the art at the priority date of the application. Since such tools were used to provide (or "apply", in the wording of claim 1) maintenance services to a plant, it was at least an obvious possibility that they were present ("installed") in the plant.

5.2 The feature specifying that these tools were "chosen utilizing shared information found in the process description manual and the knowledge database" - defining an entity in terms of the process by which it was obtained - limits the tools, if at all, only in the sense that, as suggested in the description, they form a "best of class tool set". Such a limitation merely reflects an obvious desire.

5.3 For the sake of completeness, the Board notes that if the feature were interpreted as a step of choosing the software tools it could still not support an inventive step, as it **would rely on the purely intellectual effort of selecting software tools on the basis of cognitive information** contained in the process description manual and the knowledge base.

In this respect, the appellant argued, in its letter of 25 October 2019, that the invention relieved a human from interpreting the information in the process description manual but, at the oral proceedings, conceded that the application did not support its position. Instead, it now argued that it was not important that the information had to be processed by a human. The Board cannot agree, however, that an inventive step can be based on an alleged technical effect whose actual achievement relies on a human's intellectual effort when the invention is put into practice.

5.4 The claimed "process description manual" and "knowledge database" are **electronically accessible sources of purely cognitive and thus non-technical information**. In the most technical interpretation of the claim, these information sources are linked to each other and to the hardware and software tools via hyperlinks.

Since the World Wide Web, which provides electronic access to information sources interlinked by means of hyperlinks, was well known at the priority date of the application (as is apparent from the fact that it is referred to without further explanation in the application on page 5, lines 14 to 16), the provision of the claimed information sources would have been obvious to the skilled person.

5.5 Since **the only interaction between the steps of providing the two information sources and the step of providing the hardware and software tools consists in the presence of**

known (hyper)links interconnecting the information sources and the tools in an unspecified manner, the combination of these features, which forms the subject-matter of claim 1, lacks inventive step (Article 56 EPC).

5.6 In its statement of grounds of appeal, the appellant essentially argued that the invention allowed a user to improve plant maintenance. However, whether this is so depends on the knowledge and abilities of the user, on the cognitive content of the process description manual and the knowledge database, and on the undisclosed functionality of the hardware and software tools. The appellant's argument does not therefore put into question the above finding of lack of inventive step.

The appellant's remaining arguments (based on on-line monitoring, software updates being checked for automatically, and continuous/uninterrupted improvement of the maintenance services) have no basis in the claim and lack any detailed support in the application. Consequently, they need not be discussed further.

T 0731/17 (Object persistence/MICROSOFT TECHNOLOGY LICENSING) of 15.1.2020

European Case Law Identifier: ECLI:EP:BA:2020:T073117.20200115

Object persistence in a database store

Claims - clarity (yes)
Sufficiency of disclosure - (yes)
Remittal to the department of first instance - (yes)

Application number: 04779551.3
IPC class: G06F 17/30
Applicant name: Microsoft Technology Licensing, LLC

Board: 3.5.07

Cited decisions: G 0001/04, T 0641/00, T 0154/04, T 1954/08
Citing decisions: T 2453/16, T 2710/16, T 0565/17, T 0658/17, T 2450/17, T 2496/17, T 1616/18

https://www.epo.org/law-practice/case-law-appeals/pdf/t170731eu1.pdf

2. The invention

2.1 The application relates to persisting objects in a data store. The background section explains that Microsoft SQL SERVER, which integrates the Microsoft Windows .NET Framework Common Language Runtime (CLR), allows creating a "user defined type" (UDT)

class, instances of which can then be persisted in the database store (paragraphs [0003] and [0014] of the published application).

2.2 UDTs extend the scalar type system of the database and can be used in the same contexts as a system type, such as in column definitions, variables, parameters, function results, cursors, triggers, and replication (paragraph [0007]). The class that defines a UDT can include methods that implement specific behaviours on objects of that type (paragraph [0014]).

2.3 An object of a UDT class is persisted in the database store by a process known as "object serialisation", which transfers the values of the variables of the class to the database store's physical storage (paragraph [0015]).

When a database query which references a behaviour of a persisted UDT object is executed, the object has to be deserialised, memory for the full object has to be allocated in the CLR to receive the object's stored values, and the method implementing the behaviour has to be invoked on the full object (paragraph [0016]).

2.4 The invention aims to reduce the processing overhead associated with allocating memory for storing the full object at runtime, deserialising and populating all parts of the object, essentially by providing metadata that allows "direct structural access" to the field values in the serialised representation of the persisted object (paragraphs [0016] and [0017]).

…

6. The Examining Division's inventive-step reasoning

6.1 In its decision, the Examining Division essentially argued that the only technical features of then claim 1 were "system", "database store", "server" and "persisted values" and that all other claim features, when taken in isolation, were non-technical because they were directed to a "non-technical rationale for providing 'more efficient storage and retrieval of objects persisted in a database store'".

It then argued, referring to point 6.2 of the reasons for decision T 1954/08 of 6 March 2013, that the non-technical features did not interact with the technical features to make a technical contribution because "effects stemming from the algorithmi[c] definition of a method do not define a technical character of the corresponding features".

Consequently, the subject-matter of claim 1 **lacked inventive step over a "notoriously known distributed computing environment comprising general purpose computers and a network".**

6.2 According to decision T 1954/08 of 6 March 2013, reasons 6.2, "the sole processing speed" of a computer-implemented algorithm and "the sole amount of memory" it requires are not suitable criteria for determining whether a method step contributes to the solution of a technical problem.

However, these statements in decision T 1954/08 cannot be taken to mean that any effect resulting from the implementation of a non-technical feature or combination of features is

non-technical. If non-technical features could never contribute to a technical effect just because they are non-technical, there would be no need to analyse whether non-technical features interact with the technical subject-matter of the claim to solve a technical problem or bring about a technical effect, which would be contrary to opinion G 1/04 (OJ EPO 2006, 334), reasons 5.3, and decision T 154/04 (OJ EPO 2008, 46), reasons 5, under (F), and 13 to 15.

The **Examining Division's analysis of the technical content of claim 1 is therefore flawed**.

6.3 The Board further notes that the subject-matter of a claim lacks inventive step within the meaning of Article 56 EPC only if it can be shown that the skilled person, having regard to the state of the art, would have arrived at something that falls within the terms of the claim. The Examining Division should therefore have analysed whether the skilled person, starting from what it considered to be a suitable starting point in the prior art and faced with the objective technical problem, would indeed have arrived at a method comprising both the technical and the non-technical features of claim 1. **In such an analysis, it is proper to include in the formulation of the technical problem non-technical features, not already part of the starting point or its technical context, only if those features make no technical contribution** (see decision T 641/00, OJ EPO 2003, 352).

6.4 In the present case, any attempt to properly formulate a problem that potentially would have led the skilled person from a network of general-purpose computers to the subject-matter claimed should have confronted the Examining Division with the fact that the claim, not analysed as a collection of disconnected terms but as a whole, contains various technical concepts.

For example, the claimed method involves the concept of accessing information contained in a database store via a database server. Such technical functionality is not disclosed by a network of general-purpose computers. The Board is aware that database management systems were well known at the priority date of the application (see document D1, column 1, lines 27 to 30), **but that does not mean that an inventive-step reasoning can silently ignore the concept.**

6.5 The separate section of the decision discussing documents D1 and D2 contains no detailed analysis. If the Examining Division was of the view that document D1, in column 3, lines 56 to 62, discloses direct access to object attributes "without de-serialization" because the cited passage does not positively state that serialisation takes place, **the Board observes that no disclosure of serialisation is not a disclosure of no serialisation**.

6.6 In sum, the inventive-step reasoning contained in the contested decision is not convincing.

7. Remittal

…

7.3 The subject-matter of present claim 1, which represents a solution to a technical problem as discussed in point 5.3 above, is not rendered obvious by a network of general-purpose computers alone. However, inventive step over documents D1 to D4 has not yet been assessed

in detail. Moreover, it may need to be investigated whether document D2 belongs to the state of the art under Article 54(2) EPC at all.

T 1442/16 (Cabrera ECG/PHILIPS) of 30.8.2019

European Case Law Identifier: ECLI:EP:BA:2019:T144216.20190830

METHOD OF MEDICAL MONITORING

Remittal to the department of first instance - auxiliary request VIa (yes)

Application number: 05777582.7
IPC class: G06F 19/00
Applicant name: Philips Intellectual Property & Standards GmbH
Koninklijke Philips N.V.

Board: 3.5.05

Cited decisions: T 0641/00, T 0643/00, T 0928/03, T 0049/04, T 1143/06, T 1741/08, T 0584/10, T 0862/10, T 0407/11, T 1375/11, T 1802/13, T 0336/14
Citing decisions: T 0886/17

https://www.epo.org/law-practice/case-law-appeals/pdf/t161442eu1.pdf

Claim 1 of the main request reads as follows:

"A method of medical monitoring, the method comprising the steps of

- providing a plurality of sensors (2) and positioning the plurality of sensors (2) on a patient such that the plurality of sensors (2) define a particular arrangement,

- collecting data by means of the plurality of sensors (2);

- simultaneously displaying said data using a number of multiaxis diagrams (6, 7) such that(i) a position and an angle of each of the axes (8, 10) in any of the multiaxis diagrams represents a location of a respective sensor (2) of the plurality of sensors (2) in the particular arrangement, and(ii) on each axis (8, 10) data from its related sensor (2) is displayed."

1. Main request and auxiliary requests I to III

…

1.2 The appellants do not contest that D1 represents the closest prior art for claim 1 of auxiliary request III. D1 discloses a display method for 12-lead ECG by means of 3D diagrams of which the x-axis represents the temporal evolution of the cardiac signal, the y-axis the spatial locations of the leads, and the z-axis the voltages of the cardiac signals (see D1, page 1196, right-hand column, section E, first paragraph).

1.3 Claim 1 of auxiliary request III differs from the disclosure of D1 in that each axis of the multiaxis diagrams displaying ECG data displays data from its respective ECG lead data, the position and the angle of each of the axes correspond to the location of the respective ECG lead in the arrangement according to which the respective ECG electrodes of the leads were positioned on the patient, and a 3D heart model is displayed together with the multiaxis diagrams, each of the axes in the multiaxis diagrams extending from the centre of the heart model.

1.4 These features relate to presentations of information (Article 52(2)(d) EPC) and may only contribute to an inventive step if they produce a technical effect, i.e. if they contribute to the technical character of the claim by interacting with its technical features to solve a technical problem (see T 641/00, Headnote 1 and T 1143/06, point 3.4 of the reasons).

1.5 In their statement setting out the grounds of appeal, the appellants referred to T 336/14 and argued that the arrangement of the axes in the present case reflected an operation state of the underlying technical system, formed by a plurality of sensors at a plurality of sensor locations on the patient's body, and assisted a physician in the technical task of pattern recognition or medical monitoring. The appellants submitted similar arguments during the examination proceedings based on previous case law (T 336/14 was issued after the oral proceedings before the examining division in the present case). However, as stated in T 336/14 (see point 1.2.4 of the reasons), the case law construes the term "operation state" to be technical information, such as a condition or an event internal to the underlying technical system, prompting the system user to interact with it in a continued and/or guided way for enabling its proper functioning. In the present case, the particular arrangement of the data on the axes of the diagrams does not prompt the physician to interact with the ECG device, nor does it have any relevance for the proper functioning of the ECG device.

1.6 In their statement setting out the grounds of appeal (see page 8, last paragraph to page 9, first paragraph), the appellants argued that the particular arrangement of the axes in the present case makes it simpler and quicker for the physician to assess the patient's condition as it provides a visual relationship between the sensed data and the arrangement of the sensors on the patient's body. At the oral proceedings, they further stated that the arrangement of the axes in the present case resulted in a presentation of the ECG data according to the Cabrera system (well-known to physicians) which illustrates ECG leads in an anatomically more meaningful manner. With this arrangement, a **physician would locate a condition in the patient's heart more easily and quickly.** However, the board is not convinced that the distinguishing features of claim 1 of auxiliary request III are objectively and causally linked to this alleged technical effect because the alleged effect inevitably relies on the user's cognitive abilities, including their knowledge of anatomy and principles underlying ECG, and their visualisation skills.

In this respect, the present case is not comparable with T 643/00 or T 928/03, cited by the appellants in their statement setting out the grounds of appeal and in which the technical effect of the invention was credibly demonstrated to the board.

1.7 Both during the examination proceedings and in their statement setting out the grounds of appeal, the appellants referred to T 49/04 in support of their argument. Yet as the contested

decision correctly points out (see point 20, lines 1 to 6), T 49/04 was not followed by later case law (see e.g. T 1143/06, point 5 of the reasons; T 1741/08, Catchword and point 2.1 of the reasons; T 1802/13, point 2.1.7 of the reasons, first paragraph) and does not need further discussion.

1.8 The appellants' major argument at the oral proceedings relied on a decision of the German Federal Court of Justice, BGH, X ZR 37/13, GRUR 2015, 660 - Bildstrom of 26 February 2015.

The appellants submitted that in this decision the German Federal Court of Justice reviewed and explicitly confirmed the case law of the Boards of Appeal of the European Patent Office in relation to presentations of information. That decision was, however, noteworthy in that it identified (see paragraph 35) a category of inventions related to presentations of information other than the "what" ("die Vermittlung bestimmter Inhalte" in the citation below) and "how" ("deren Vermittlung in besonderer Aufmachung" in the citation below) categories discussed in T 336/14 and T 1802/13, namely those which exploit physiological characteristics of human perception so as to enable or improve the perception of presented information by a human.

According to the Court (see also the headnote), such inventions provided a technical solution to a technical problem:

"Anweisungen, die zwar die [...] Informations- wiedergabe betreffen, bei denen aber nicht die Vermittlung bestimmter Inhalte oder deren Vermittlung in besonderer Aufmachung im Blickpunkt steht, sondern die Präsentation von Bildinhalten in einer Weise, die auf die physischen Gegebenheiten der menschlichen Wahrnehmung und Aufnahme von Informationen Rücksicht nimmt und dabei darauf gerichtet ist, die Wahrnehmung der gezeigten Informationen durch den Menschen in bestimmter Weise überhaupt erst zu ermöglichen, zu verbessern oder zweckmäßig zu gestalten, dienen der Lösung eines technischen Problems mit technischen Mitteln und sind bei der Prüfung auf erfinderische Tätigkeit zu berücksichtigen."

The appellants were not aware of any such distinction having been made in the case law of the Boards of Appeal of the European Patent Office up to now and asked the board to also recognise such inventions as contributing to the solution of a technical problem.

However, the **distinction between subjective psychological factors and objective physiological factors when assessing the presence of a credible technical effect in inventions involving presentations of information has already been made in several decisions of the Boards of Appeal** of the European Patent Office (see e.g. T 862/10, point 4.2 of the reasons; T 1375/11, point 4.6 of the reasons). This is **not a further category of inventions involving presentations of information, but rather one criterion for assessing the credibility of an alleged technical effect.** In the present case, **although the Cabrera system evidently reflects the anatomy of the patient, an arrangement of the axes of the diagrams according to the Cabrera system clearly has nothing to do with the physiological characteristics of the physician's eye or visual system**.

1.9 The appellants were not able to demonstrate credibly that the distinguishing features of claim 1 of auxiliary request III produced a technical effect. Accordingly, they relate to presentations of information as such and are non-technical features which have to be disregarded in the assessment of inventive step according to the established case law (see T 641/00, Headnote 1).

1.10 In conclusion, claim 1 of the main request and auxiliary requests I to III does not involve an inventive step (Article 56 EPC).

…
6. Auxiliary request VIa

6.1 In claim 1 of auxiliary request VIa, the appellants limited the pattern parameter to the explicit formula provided for the parameter AreaST on page 10 of the application as originally filed. The objection to claim 1 of auxiliary request Va under Article 123(2) EPC was thus overcome.

6.2 **The addition of the feature of triggering an alarm shifted the focus of the proceedings away from presentations of information**. Furthermore, numerous features from the description which were not present in the originally filed claims or in the claims examined during the examination proceedings were added to the claims during the appeal proceedings, in particular related to polygonal patterns and parameters calculated on the basis of these patterns, and therefore these features may not have been searched.

6.3 In view of the above, the board decided, pursuant to Article 111(1) EPC, to **remit the case** to the examining division for further prosecution on the basis of the claims of auxiliary request VIa.

T 1039/13 (Updating information/EQUIFAX) of 11.12.2019

European Case Law Identifier: ECLI:EP:BA:2019:T103913.20191211

SYSTEM AND METHOD FOR MANAGING AND UPDATING INFORMATION RELATING TO ECONOMIC ENTITIES

Inventive step - information supplier receiving and updating information buyer's database (no
Inventive step - non technical requirement)

Application number: 02792279.8
IPC class: G06F 17/60
Applicant name: Equifax, Inc.

Board: 3.5.01

Cited decisions: T 0641/00, T 1463/11

https://www.epo.org/law-practice/case-law-appeals/pdf/t131039eu1.pdf

1.1 The invention concerns a method involving an information supplier that gathers information about consumers and sells it to a number of information buyers ("information customers" in claim 1). The information buyers may use the processed information for marketing purposes (see the published application at page 1, lines 17 to 25).

Looking at Figure 1 of the published application, the information supplier (102) stores the consumer data in a "universe database file" (UF, 104). Each record in the UF has a "unique universe identifier" (UUID), which is stable over time (page 3, lines 10 to 12). The information buyers (108A-N), on their end, store information about their existing or potential customers in "customer database files" (CF, 120a-n). The records in the CFs are indexed by a "unique customer identifier" (UCID).

2. Main request, claim 1

2.1 Claim 1 of the main request covers the initial transfer of information from the information supplier to an information buyer as depicted in Figure 2 of the published application. At this stage, the information buyer's CF is essentially a list of customers that it presumably already knows about, but whose records do not have UCIDs assigned to them (page 7, lines 18 to 19).

The information buyer sends the list of customers to the information supplier in a "transfer customer database file". The information supplier assigns a UCID to each entry in the list, compares the list of customers with the information stored in the UF, and updates the customer database file (page 7, line 31 to page 8, line 8). The information supplier may, for example, add information about the customers' income and debts. The information supplier also generates a conversion table (CT) that provides a mapping between the UCIDs and the UUIDs. The CT will be used for mapping the records in the CF to the records in the UF the next time the CF is to be updated (Figure 3; page 8, lines 18 to 28).

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

3.1 D6 discloses a database system comprising a central data warehouse that contains data (e.g. customer data) imported from a plurality of different source systems. The data warehouse uses UUIDs (system-generated "surrogate keys") as primary keys. The source systems have different keys ("production keys").

3.2 The examining division mapped the data warehouse in D6 to the information supplier's UF in claim 1. The Board agrees that this is a reasonable mapping.

The Board furthermore agrees with both the examining division and the appellant that the source systems in D6 cannot be mapped directly to the CFs in claim 1. In D6, the central data warehouse imports data from the source systems, whereas in claim 1, the information supplier provides information to the information buyers.

An information buyer or user that wants to obtain information about (potential) customers from the data warehouse in D6 would have to query the database. The query would have to be in an appropriate format, taking into account the structure of the database tables, and it would necessarily include a list of customers. The response from the database would be the requested information in some format.

3.3 The subject-matter of claim 1 of the main request differs from D6 in that the information buyer provides a database file to the information supplier, which, in turn, assigns unique identifiers (UCIDs) to the records in the file and updates them. The identifiers used for the customer database file are different from the UUIDs used in the central database. The information supplier also creates a conversion table between the UCIDs and the UUIDs.

3.4 The examining division found that the provision of customer database files by the information buyer, as well as the updating of those files by the information supplier, were non-technical business requirements. The skilled person would have implemented those requirements on the system in D6 using the teachings available in D6 to generate and map the identifiers.

3.5 The appellant argued that the invention increased the security of the information supplier's database by limiting the extent to which it was accessed by outside systems, whilst also increasing the efficiency of information retrieval at the client end, because the CF could be hosted on the information buyer's systems.

The appellant furthermore argued that the skilled person would not have considered teachings in D6 relating to information acquisition (the import of data from the source system to the data warehouse) for the purpose of information delivery (the provision of information to the information buyers).

3.6 Thus, **the key question and the point of dispute in this case is where to draw the line between the technical and non-technical features of the invention. This is crucial, because the non-technical features are given to the skilled person as a set of requirements to implement.** Since they are part of the problem rather than the solution, they cannot contribute to inventive step (see T 641/00 - Two identities/COMVIK).

Drawing the line between what is technical and not technical requires careful consideration of all the features of the invention and their associated effects.

In decision T 1463/11 (Universal merchant platform/CardinalCommerce), the "notional business person" was used as a tool for drawing the line between the non-technical requirements and the technical implementation of those requirements. The business person can require things such as "Move the money from the payer's account to the payee's account", but the choice of technical means for carrying out the business requirements is normally left to the technical skilled person.

3.7 The Board is not persuaded by the appellant's arguments that the alleged increased security is a technical effect that counts towards inventive step. It is **rather a question of what and how much information to give away. That is something for the business person.**

The **Board agrees with the examining division that the invention is to a large extent a consequence of the relationship between the information supplier and the (plurality of) information buyers.** The information supplier sells data to the information buyers. It wants to retain control over its data as much as possible. That is good for business. The information buyer keeps information about its customers or potential new customers. That is part of their business.

The business person might say: We (the information supplier) do not want to give away more information than necessary, and we want to control what information we give away. Give us a list of customers and we will update the records with information that we have about those customers. Thus, those are non technical requirements that are given to the skilled person.

3.8 It follows directly from the business requirements that the customer list be provided to the information supplier in some appropriate format, and that the information supplier update the file.

The Board also has **doubts whether assigning a unique identifier (a key) to the customer records is technical.** The business person could require: "We must be able to identify each customer." In any case, the use of unique identifiers (primary keys) to identify records in a database was standard practice since long before the priority date.

The skilled person implementing the business requirements would assign keys to the customer records. Whether to use the same keys as in the central database or different keys is, from a technical point of view, a matter of convenient choice. In view of the non technical requirement "Don't give away information", using different keys would be the natural choice.

3.9 Furthermore, the keys used in the source systems in D6 are different from the keys in the central data warehouse. The skilled person would not see this as a teaching limited to data acquisition. On the contrary, he would recognise that the same arrangement could be used for the central database and the information buyer's customer database.

3.10 Also, it is evident to the skilled person that, if different keys are used, a conversion between them is necessary. That is also known from D6.

3.11 For these reasons, the Board concludes that the skilled person would have arrived at the invention as defined in claim 1 of the main request in an obvious manner starting from D6. Therefore, the subject-matter of claim 1 lacks an inventive step (Article 56 EPC).

T 2455/13 (Überwachung von Kapitalunterlegungshöhen bei Risikoereignissen/SWISS … of 29.1.2020

European Case Law Identifier: ECLI:EP:BA:2020:T245513.20200129

SYSTEM UND VERFAHREN ZUR RÜCKGEKOPPELTEN, DYNAMISCHEN ÜBERWACHUNG VON UNTERLEGUNGSHÖHEN BEI RISIKOEREIGNISSEN

Erfinderische Tätigkeit (nein)
Erfinderische Tätigkeit - Mischung technischer und nichttechnischer Merkmale
Erfinderische Tätigkeit - Technische Merkmale aus dem Stand der Technik vorbekannt
Erfinderische Tätigkeit - Naheliegende Implementierung der nicht-technischen geschäftsbezogenen Unterschiede

Anmeldenummer: 05762958.6
IPC-Klasse: G06Q 40/00
Verfahrenssprache: DE

Name des Anmelders: Swiss Reinsurance Company Ltd.

Kammer: 3.5.01

Orientierungssatz:
Auch der nicht-technische Fachmann hat Kenntnis von den Möglichkeiten einer Realisierung von geschäftsbezogenen Konzepten auf netzwerkbasierten Computersystemen. Er kannte zum Prioritätszeitpunkt eine Vielzahl von rechner- und netzwerkgestützten geschäftlichen Prozessen (z.B. im Bereich der Zahlungsprozesse, Materialwirtschaft und auch der Versicherungswirtschaft), um eine Vorstellung davon zu haben, was konzeptionell auf einer abstrakten Meta-Ebene realisierbar ist. Was der nicht-technische Fachmann jedoch nicht weiß ist, wie genau eine Implementierung auf dem Computer erfolgt. Dies liegt in der Sphäre des Programmierers, des technischen Fachmanns, und ist bei der Prüfung auf erfinderische Tätigkeit zu berücksichtigen (vgl. T 1082/13, Entscheidungsgründe 4.8).

Sind Merkmale lediglich auf einer abstrakten Meta-Ebene als Module spezifiziert und repräsentieren Funktionen, wie sie der nicht-technische Fachmann in seinem Konzept zugrunde legen würde, so gibt dieser damit auch keine technischen Merkmale vor. Erst durch die Angabe von tatsächlichen Implementierungs-schritten im Anspruch werden diese Module zu technischen Merkmalen qualifiziert (vgl. Entscheidungsgründe 3.10 bis 3.12).

Angeführte Entscheidungen: T 1194/97, T 0641/00, T 0154/04, T 1082/13

https://www.epo.org/law-practice/case-law-appeals/pdf/t132455du1.pdf

Die vorliegende Erfindung betrifft ein System und Verfahren zur rückgekoppelten, dynamischen Bestimmung, Anpassung und/oder Überwachung von Unterlegungshöhen von technischen Anlagen (vgl. Beschreibung, Seite 1, Zeilen 3 bis 5). Damit sind die nötigen

Kapitalunterlegungshöhen gemeint, die bestimmt werden müssen, um den Wiederbeschaffungswert (monetärer Neuwertfaktor) zu ermitteln (vgl. Seite 2, Zeilen 7 bis 11). Dahinter steht das **Problem eines Risikomanagements und der Handhabung von Risikoereignissen**. Darauf aufbauend sollen dann Kontrollfunktionen angewendet werden. Eine dynamische Ermittlung der Kapitalunterlegungshöhen, d.h. Kostenberechnungen, berücksichtigt dabei eine Vielzahl von Parametern, darunter länderspezifische wie Lohnkosten, zeitlich veränderbare monetäre Parameter wie Inflation oder Wirtschaftsentwicklung sowie betriebsartspezifische Parameter. Die Auswahl geeigneter Parameter wird anmeldungsgemäß als Parametrisierung bezeichnet.

Dabei ist von Bedeutung, auf welche Weise bzw. in Abhängigkeit wovon eine Aktivierung betriebs-spezifischer Anlagemittel erfolgen soll, vor allem vor dem Hintergrund, dass eine Parametrisierung von monetären Unterlegungshöhen abhängig ist. Hier ist unter anderem vorstellbar, dass eine technische Anlage erst dann in Gang gesetzt wird, wenn ein ausreichender Versicherungsschutz vorliegt. Die Kammer hat Zweifel, dass es sich dabei um eine technische Aufgabenstellung handelt.

1. Hilfsantrag gemäß Anhang A

3. Artikel 56 EPÜ - Erfinderische Tätigkeit

Die Prüfungsabteilung betrachtete den beanspruchten Gegenstand des Anspruches 1 des Hauptantrages als naheliegende Umsetzung eines administrativen Verfahrens in einem verteilten Informationssystem, was als notorisch bekannt angesehen wurde, unter Vorgabe nicht-technischer Randbedingungen über die Erstellung und Verteilung von Finanzinformationen ("Verwendung eines .. Netzwerkrechners und modularer Softwareimplementierung der abstrakten nicht-technischen Geschäftsfunktion"). Aus den gleichen Gründen wurde der beanspruchte Gegenstand als nicht erfinderisch ausgehend von dem Stand der Technik nach D1 angesehen.

3.1 Die Beschwerdeführerin argumentiert im wesentlichen, die Prüfungsabteilung habe das Ziel der Erfindung nicht richtig erfasst und technische Merkmale ausgeklammert und nicht berücksichtigt. Insbesondere liege eine technische Wirkung darin, mittels des beanspruchten Überwachungsverfahrens "industrie-standard übergreifend Unterlegungshöhen technischer Anlagen" zu überwachen (vgl. S. 11, Abs. 3 der Beschwerdebegründung), wobei das beanspruchte Verfahren bei der Erfassung der relevanten Messdaten selbst-adaptiv die Parametrisierung anpasse bzw. beim ersten Mal ohne menschliche Interaktion erzeuge. Daraus leitet die Beschwerdeführerin als **Aufgabe eine automatisierte, dynamisch angepasste Erfassung von technischen Anlagen und die Überwachung von deren Unterlegungshöhen zum automatischen Triggern zugeordneter Anlagemittel ab** (vgl. S. 11, Abs. 4 der Beschwerdebegründung).

3.2 Die vorgebrachten Argumente der Beschwerdeführerin vermögen die Kammer nicht zu überzeugen.

Zunächst sind die Unterlegungshöhen, wie eingangs dargelegt, monetäre Daten und somit keine technischen Parameter. Diese können dem beanspruchten Gegenstand keinen technischen Charakter verleihen und tragen auch nicht zu einem solchen bei.

Die Messdaten sind so weit gefasst, dass darunter ohne weiteres auch finanzmathematische Parameter fallen, ebenfalls nicht-technischer Art (z.B. länderspezifische Lohnkosten). Die Bezeichnung "industrie-standard übergreifend" ist auch anhand der Beschreibung nicht näher erläutert und damit ohne zugrunde liegende technische Eigenschaft.

So verleiht das Sammeln und das Auswerten von Daten im Rahmen eines betriebswirtschaftlichen Verfahrens nach ständiger Rechtsprechung (vgl. T 154/04) dem Verfahren keinen technischen Charakter, es sei denn, diese Schritte tragen zur technischen Lösung einer technischen Aufgabe bei. Für letzteres sieht die Kammer jedoch keine Anhaltspunkte.

Die geltend gemachte selbsttätige Parametrisierung ist lediglich aufgabenhaft beansprucht, jedoch fehlen nähere Erläuterungen wie genau dies erfolgt. Ohne nähere technische Lehre mit technischen Merkmalen, wie dies im einzelnen erreicht wird, ist das entsprechende Merkmal lediglich ein desideratum. Es bleibt vage, woraus sich anspruchsgemäß die "technische Relevanz" und entsprechende Schwellwerte dafür ergeben, oder wie dies "basierend auf Prozesschritten .. oder Anlagen" erfolgen soll. In diesem Zusammenhang helfen auch das in den Anmeldungsunterlagen erwähnte statistische Analysemodul 10 (vgl. S. 10, Z. 22ff) oder die Filtereinheit 12 mit einem Gewichtungsmodul nicht weiter, da deren technischer Aufbau selbst nicht im Detail erläutert wird. Diese Merkmale sind lediglich auf einer abstrakten Meta-Ebene als Module definiert.

3.3 Wie aus der Beschreibung hervorgeht, sind die jeweiligen Module über gängige Technik miteinander verbunden, so z.B. vernetzte Computer sowie Netzwerk- und Kommunikationsstandards wie GSM, UMTS, LAN etc. (vgl. S. 11). Aus Sicht der Kammer waren diese dem Fachmann ohne weiteres geläufig. Die technische Infrastruktur aus Computern, auf der die jeweiligen Funktionen über abstrakte Module implementiert sind, stellen technische Merkmale dar, die dem beanspruchten Gegenstand technischen Charakter verleihen. Jedoch erfordert eine erfinderische Tätigkeit einen erfinderischen technischen Beitrag, für den die Kammer keine Grundlage sieht.

3.4 Die Beschwerdeführerin argumentiert, die Selektion der Messparameter sei ein technischer Vorgang. Jedoch bleibt offen, welche Parameter selektiert werden (umfasst sind ja auch finanzmathematische Größen) und wie genau dies geschieht, was **erforderlich** wäre, um einen **technischen Effekt** anzuerkennen.

3.5 Die Beschwerdeführerin kritisiert weiter, in der angefochtenen Entscheidung sei eine Beurteilung der Anspruchsmerkmale isoliert von ihrem Zusammenwirken erfolgt (vgl. S. 3, 2. Abs. der Beschwerdebegründung sowie in der mündlichen Verhandlung vorgetragen). Jedoch bleibt die Beschwerdeführerin selbst eine genaue Darstellung schuldig, worin dieses Zusammenwirken besteht und welche technischen Effekte dadurch erzielt werden.

3.6 Vielmehr ist die Kammer der Auffassung, dass es sich um ein abstraktes Konzept zur dynamischen Anpassung von Kapital-Unterlegungshöhen mit Hilfe von Finanzdaten und eventuell unter Einbeziehung von einigen physikalischen Parametern handelt, welches auf einer herkömmlichen technischen Infrastruktur implementiert ist. Welche technischen Parameter sich wie auf die Anpassung auswirken und wie diese verknüpft werden, bleibt

spekulativ. Jedoch ist die Kammer der Auffassung, dass es sich **in keinem Fall um funktionelle Daten handelt, da ein Defekt solcher Daten nicht die Funktion bzw. den Ablauf des Überwachungsverfahrens in Frage stellt, sondern allenfalls falsche Werte für die Kapital-Unterlegungshöhen generiert.** Insofern besitzen die verwendeten Messwerte kognitiven Charakter (vgl. T 1194/97 Data structure product/PHILIPS) und stellen keine inhärenten technischen Merkmale dar.

3.7 Die Kammer stimmt der angefochtenen Entscheidung zu, dass D1 die technischen Merkmale des Anspruchs 1 offenbart, insbesondere vor dem Hintergrund der abstrakten Formulierung des Anspruchswortlauts. Darüber hinaus sind auch zahlreiche nicht-technische Merkmale, die nicht zur erfinderischen Tätigkeit beitragen, aus D1 bekannt. So erlaubt D1 eine Parametrisierung komplexer Systeme, indem funktionelle Beziehungen mittels einer solchen Parametrisierung erreicht werden. Abgegebene Signale werden erfasst und überwacht und es wird eine Entscheidung generiert, ob betriebsspezifische Anlagemittel aktiviert/deaktiviert werden (z.B. ein Kraftwerk abgeschaltet werden soll, vgl. Figur 3 von D1).

…

3.9 Damit sind die technischen Merkmale des Anspruchs 1 aus D1 vorbekannt und es verbleiben als Unterschiede gegenüber der Lehre von D1 nur abstrakte Schritte, die dem administrativen Konzept und damit der Sphäre des Versicherungsfachmanns zuzuordnen sind. Dies sind Gewichtungsfaktoren für Parameter, deren Normierung, Anpassbarkeit, Datenzuordnungen und Aggregation nach Betriebsarten, sowie Inhalte von Daten wie länderspezifische Informationsinhalte.

Die Kammer stimmt mit der angefochtenen Entscheidung überein, dass sich diese Merkmale direkt aus einer zugrundeliegenden nicht-technischen finanzmathematischen Berechnungsmethode ergeben. Die dynamische Anpassung der Parametrisierung an unterschiedliche Regionen umfasst (siehe Seite 9 der Beschreibung) unterschiedliche Lohnkosten in unterschiedlichen Regionen (Polen, Deutschland, Schweiz) zu berücksichtigen, was auf rein nicht-technischen, geschäftlichen Überlegungen beruht. Eine Normierung dieser Kostenparameter auf eine einheitliche Währung und eine Gewichtung, z.B. nach aktuellen Währungskursen, stellen rein nicht-technische Überlegungen dar.

3.10 Die **Grundidee, eine Bestimmung von Unterlegungshöhen für eine Vielzahl unterschiedlichster Anlagemittel (betriebsart-spezifisch) mit einem einheitlichen Kostenermittlungsansatz zu ermöglichen sowie das Konzept dafür, ist dem nicht-technischen Fachmann zuzuordnen**. Anders als von der Beschwerdeführerin behauptet, ist es nicht der Programmierer als technischer Fachmann, der mit diesem Konzept zur Ermittlung von Kapitalunterlegungshöhen an den Versicherungsfachmann herantritt. **Auch der nicht-technische Fachmann hat Kenntnis von den Möglichkeiten einer Realisierung von geschäftsbezogenen Konzepten auf netzwerkbasierten Computersystemen.** Er kannte zum Prioritätszeitpunkt eine Vielzahl von rechner- und netzwerkgestützten geschäftlichen Prozessen (z.B. im Bereich der Zahlungsprozesse, Materialwirtschaft und auch der Versicherungswirtschaft - siehe D1), um eine Vorstellung davon zu haben, was konzeptionell auf einer abstrakten Meta-Ebene realisierbar ist. Was der nicht-technische Fachmann jedoch nicht weiß ist, wie genau eine Implementierung auf dem Computer erfolgt. Dies liegt in der

Sphäre des Programmierers, des technischen Fachmanns, und ist bei der Prüfung auf erfinderische Tätigkeit zu berücksichtigen (vgl. T 1082/13, Entscheidungsgründe 4.8).

3.11 …

Weder der Anspruch 1 noch die Anmeldungsunterlagen als Ganzes geben Aufschluss darüber, wie eine technische Implementierung erfolgen soll, welche die Grundlage für einen erfinderischen technischen Beitrag leisten könnte. So sind Filtereinheit und Gewichtungsmodul, Datenbanken sowie Analysemodul lediglich auf einer abstrakten Meta-Ebene als "Module" spezifiziert, ohne dass deren technischer Aufbau im Detail erläutert wird. Diese Merkmale repräsentieren rein abstrakte Funktionen, wie sie der nicht-technische Fachmann in seinem Konzept zugrunde legen würde. Damit gibt der nicht-technische Fachmann auch keine technischen Merkmale vor, denn **auch eine Datenbank** ist auf dieser abstrakten Ebene nicht zwangsläufig als technisches Merkmal anzusehen, sondern beschreibt lediglich eine Organisation und Ablage von Daten, die im vorliegenden Fall monetäre Daten umfassen und damit kognitiven Charakter besitzen (vgl. Punkt 3.6 oben). Gleiches gilt für Filtereinheit und Gewichtungsmodul oder Analysemodul, welche mathematische Operationen auf monetären Daten repräsentieren.

Was die tatsächliche Implementierung betrifft, wodurch diese "Module" erst zu technischen Merkmalen qualifiziert werden, so sind technische Details dazu im Anspruch nicht spezifiziert. Die Anmelderin geht anscheinend selbst davon aus, dass solche "Module" dem technischen Fachmann zum Anmeldezeitpunkt verfügbar waren und eine technische Implementierung keiner näheren Erläuterung in den Anmeldungsunterlagen bedurfte.

3.12 Für die Implementierung des abstrakten Konzepts zur dynamischen Anpassung von Kapital-Unterlegungshöhen, worin die objektive technische Aufgabe gegenüber der Lehre von D1 zu sehen ist, sind keine besonderen technischen Hürden ersichtlich, zumindest sind weder technische Schwierigkeiten noch besondere Maßnahmen zu deren Überwindung aus den Anmeldungsunterlagen zu entnehmen und wurden auch von der Beschwerdeführerin nicht dargelegt. Eine Implementierung liegt aus Sicht der Kammer im Rahmen des allgemeinen Fachwissens und trägt nicht zu einem eventuellen erfinderischen Schritt im Sinne von Artikel 56 EPÜ bei. Der Gegenstand von Anspruch 1 gemäß Anhang A beruht daher nicht auf einer erfinderischen Tätigkeit.
