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Datasheet for the decision
of 9 July 2024

Case Number: T 2319/22 - 3.5.07

Application Number: 17208443.6

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Language of the proceedings: EN

Title of invention:
System comprising providing means for providing numbers to a
user

Applicant:
Bissantz, Nicolas, Dr.rer.Pol.

Headword:
Displaying numbers to a user/BISSANTZ

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - all requests (no)

Decisions cited:
G 0001/19, T 0935/97, T 1173/97, T 0643/00, T 0154/04,
T 1227/05, T 1235/07, T 1741/08

Case Number: **T 2319/22 - 3.5.07**

D E C I S I O N
of Technical Board of Appeal 3.5.07
of 9 July 2024

Appellant:	Bissantz, Nicolas, Dr.rer.Pol.
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Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 27 June 2022 refusing European patent application No. 17208443.6 pursuant to Article 97(2) EPC**

Composition of the Board:

Chair	J. Geschwind
Members:	M. Jaedicke
	P. San-Bento Furtado

Summary of Facts and Submissions

I.   The appellant (applicant) appealed against the
        examining division's decision refusing European patent
        application No. 17208443.6.

II.   The documents cited in the contested decision included:
        D5   "Tag cloud", Wikipedia, 20 September 2016,
              pp. 1-8, https://en.wikipedia.org/w/index.php?
              title=Tag_cloud&oldid=740416063
        D6   Heimerl, Florian et al.: "Word Cloud Explorer:
              Text Analytics Based on Word Clouds", Proceedings
              of the 2014 47th Hawaii International Conference
              on System Sciences, IEEE Computer Society,
              January 2014, pp. 1833-1842

III.   The examining division refused the application on the
        grounds that the subject-matter of the independent
        claims of the main request and of each of the first to
        fifth auxiliary requests lacked inventive step when
        starting from the prior art disclosed in document D5
        (for the second and fifth auxiliary requests, the
        examining division referred additionally to
        document D6). The examining division also decided that
        at least part of the claimed subject-matter related to
        a non-technical presentation of information as such.

IV.   In its statement of grounds of appeal, the appellant
        requested that the contested decision be set aside and
        that a patent be granted on the basis of the main
        request or one of the first to fifth auxiliary
        requests, all requests as considered in the contested
        decision. As a further auxiliary request, it requested
        remittal of the case for further prosecution.

V.   In a communication under Article 15(1) RPBA, the board
         expressed among other things its provisional opinion
         that the subject-matter of claim 1 of all the requests
         lacked inventive step in view of document D5.

VI.   Oral proceedings were held as scheduled and the
         appellant was heard on the relevant issues. At the end
         of the oral proceedings, the Chair announced the
         board's decision.

VII.   The appellant's final requests were that the contested
         decision be set aside and that a patent be granted on
         the basis of the main request or one of the first to
         fifth auxiliary requests, all requests as considered in
         the contested decision.

VIII.   Claim 1 of the main request reads as follows
         (itemisation of the features added by the board):
         [A]   "System comprising providing means for providing
                numbers to [*sic*] user,
         [B]   comprising display means for displaying said
                provided numbers, each number having a value,
         [C]   wherein the system furthermore comprises
                determination means which is adapted to calculate
                the size of the number dependent on said value
                and/or wherein the determination means is adapted
                to calculate the depth of the color of the number
                dependent on said value,
         [D]   wherein the determination means is further
                adapted to elect the size of the number the
                larger the larger the value of the number is and/
                or to elect the depth of the color the larger the
                value of the number is,
         [E]   and wherein the display means is adapted to
                display the number in the determined size and/or

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        to display the color in the determined depth, characterized in that

[F]   the numbers are embedded within a text or are located near a text and wherein the determination means are adapted to elect the size of the characters of the text as the size of the number having the smallest value; and

[G]   wherein the determination means is adapted to determine the largest value and the smallest value of said numbers and to allocate a first determined size to the largest value and to allocate a second determined size to the smallest value, wherein the determination means is adapted to determine the interval between the second determined size and the first determined size and to determine all sizes within this interval on a linear basis."

IX.   Claim 1 of the first auxiliary request differs from claim 1 of the main request in that the text ", wherein the numbers are technical data", referred to below as feature (i), has been added at the end of the claim.

X.   Claim 1 of the second auxiliary request differs from claim 1 of the main request in that the text ", wherein the system comprises input means which are adapted to allow the input of one or more numbers by a user and wherein the determination means are adapted to recalculate the size of all numbers depending of [*sic*] the value of the inputted number", referred to below as feature (ii), has been added at the end of the claim.

XI.   Claim 1 of the third auxiliary request differs from claim 1 of the main request in that the text ", wherein the providing means is a processor and is adapted to provide numbers from a database to a display", referred

to below as feature (iii), has been added at the end of
the claim.

XII.   Claim 1 of the fourth auxiliary request differs from
         claim 1 of the main request in that the text ", wherein
         the system comprises means to detect the value of the
         numbers and to assign the appropriate unit and/or other
         abbreviations which represent the magnitude of the
         numbers to the numbers automatically", referred to
         below as feature (iv), has been added at the end of the
         claim.

XIII.   Claim 1 of the fifth auxiliary request differs from
         claim 1 of the first auxiliary request in that it adds
         features (ii) and (iv) and further limits feature (iv)
         to "and other abbreviations" instead of "and/or other
         abbreviations".

XIV.   The appellant's arguments relevant to the current
         decision are discussed in detail below.

Reasons for the Decision

1.   The application relates to a computer system comprising
         means for displaying numbers to a user. The way in
         which the numbers are displayed allows the user to
         quickly assess at least some of the displayed numbers
         even if a high number of data items are shown on the
         display (see page 1 of the originally filed description
   and Figure 6 of the application reproduced below).

Main request - inventive step

2.   The examining division assessed inventive step starting
         from document D5; the appellant did not contest that
         this document was a suitable starting point.

2.1   Document D5 is a Wikipedia webpage for the entry "Tag
         cloud" (or "word cloud") and discloses various visual
         representations of textual data such as keyword
         metadata ("tags") on websites. The tags are displayed
         in a particular format where the importance of each tag
         is shown by font size or colour. According to
         document D5 this format is useful for quickly
         perceiving the most prominent terms and for locating a
         term alphabetically to determine its relative
         prominence (D5, page 1 and page 3, section "Visual
         appearance"). The section "Creation of a tag cloud" on
         pages 4 and 5 of document D5 discloses a formula for
         calculating the display font size in (linear)
         dependence on the count of a tag, the lowest and
         highest counts of tags in the tag cloud and the maximum
         font size.

         Document D5 also discloses "data clouds". A data cloud
         is a data display which uses font size and/or colour to
         indicate numerical values (D5, page 3, section "Data
         clouds"). Example data clouds are depicted in the
         figures on pages 2 (a data cloud showing the population
         size of each of the world's countries) and 3 (a data
         cloud showing stock price movement, with the colour
         indicating positive or negative changes and the font
         size indicating percentage changes; see the
         reproduction below).
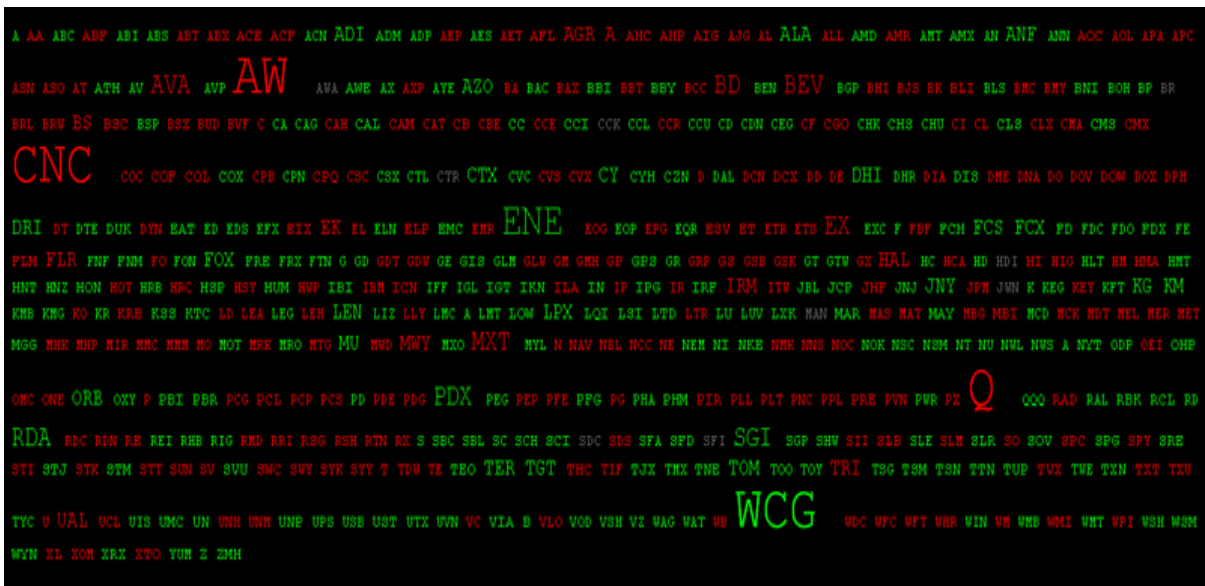
2.2   The examining division referred in particular to the
       example data cloud depicting stock price changes shown
       on page 3 of document D5. It concluded that the
       subject-matter of claim 1 of the main request differed
       from the teaching of D5 only in that the numbers were
       presented as such rather than by names representing
       them. For example, the above example data cloud showed
       stock ticker symbols whereas the invention displayed
       the numbers themselves (see Figure 6 of the
       application, for example; see point 2.3 of the
       contested decision). The examining division considered
       that this distinguishing feature did not achieve a
       technical effect. Rather, it specified only a mere
       presentation of information which was non-technical.
       Moreover, according to decision T 1741/08, lessening a
       user's cognitive burden was not a technical effect.

2.3   The appellant disagreed with the examining division and
       argued that features C, D, F and G (see point VIII.
       above for the itemisation of the claim features) were
       the distinguishing features of claim 1. According to
       the appellant, these distinguishing features together

achieved the technical effect that the system could
display numbers (e.g. pertaining to an internal state
of a device such as pressure, or an external state of a
device such as speed) in a way that selectively drew
the user's attention to particularly relevant numbers
(e.g. large pressure values or high speed values),
allowing the user to operate the device (e.g. a control
panel of a nuclear power plant or a cockpit of a plane)
more safely and/or effectively on the basis of an
improved information level. The invention was similar
to that in the case on which decision T 643/00 was
based, in which the manner of conveying information
contributed to the solution of a technical problem
since it enabled the user to perform their technical
task (searching and retrieving images) more
efficiently. In the current case the task was to search
for values which are critical, e.g. in the context of a
technical application.

Referring to the Guidelines for Examination in the
European Patent Office, the appellant argued that it
was irrelevant that the application documents as filed
did not disclose explicitly and in detail an example of
the invention being applied to e.g. a vehicle, as long
as the person skilled in the art could "immediately
grasp" that such a technical application was a "valid
implementation" of the invention claimed (statement of
grounds of appeal, page 15).

According to the appellant the objective technical
problem was "to improve ergonomics in a human-machine
interaction, e.g. of a user in front of a control
panel, and to improve the quantity of information
conveyed" (statement of grounds of appeal, page 17).

The skilled person could arrive at the claimed solution

only through "independent, creative and hence inventive
thinking" since document D5 explicitly taught away from
displaying numbers at all, as these were "unhelpful
tags" to be filtered out (see D5, page 4, last
sentence; statement of grounds of appeal, pages 18 and
19).

2.4   The board does not agree with the distinguishing
        features as identified by the appellant.

2.4.1   Regarding distinguishing feature C, the appellant
        argued that document D5 did not disclose a means
        configured to calculate the font size for displaying a
        number depending on the value of the number. Instead,
        according to D5 the font size was calculated depending
        on the percentage change in a value.

        However, the board is not convinced by this argument as
        it considers that the percentage change is itself a
        number. The numbers underpinning the data cloud
        visualisation shown on page 3 of document D5 are the
        percentage changes of the stock prices, not the stock
        prices as such (see the caption of the image on page 3
        of document D5 which refers to "stock price movement",
        i.e. to stock price changes).

2.4.2   The appellant argued that the examining division did
        not explain where distinguishing feature D was
        disclosed in document D5. However, the board
        understands from point 2.2 of the contested decision
        that document D5 disclosed adapting the font size of
        text (the stock symbol) associated with a number (the
        stock's price movement/percentage change).
        Consequently, the board considers that the distinction
        over document D5 is not distinguishing feature D, as
        alleged, but the distinguishing feature identified in

point 2.3 of the contested decision ("the numbers are presented as such rather than by names (e.g. stock name) representing them").

2.4.3   Regarding distinguishing feature F, the appellant argued that the examining division referred to the disclosure in the section "Creation of a tag cloud" on pages 4 and 5. However, that section related to a tag cloud that only included words, whereas numbers were considered "unhelpful tags" according to the last sentence on page 4 of document D5. The disclosure in document D5 was incompatible with the system according to the claimed invention, which aimed at displaying numbers such as the speed of a vehicle. According to the claimed system, numbers were not considered "unhelpful tags" but were decisive in assisting users operating a device, for example.

The board is not convinced by these arguments. Claim 1 is not restricted to a technical use of the displayed data in supporting a user with a technical task such as controlling a vehicle – nor does it even specify any such use. The content of the information to be presented ("what is displayed") is, in the context of claim 1, determined by a non-technical user requirement since the information displayed is not used to provide any "further" technical effect (see decisions T 1173/97 and T 935/97), for example regarding the automated control of (1) a device (e.g. a vehicle) different from the computer system or (2) a technical process external to the computer system (such as a chemical process).

2.4.4   The appellant argued that distinguishing feature G was different from the proposed calculation of the display font size s_i according to the formula disclosed in D5, page 4, section "Creation of a tag cloud".

The board agrees with the appellant that document D5
discloses, in the aforementioned section, calculating
the display font size for a given tag in a tag cloud on
the basis of the incidence of a tag, i.e. a frequency
with which this tag was assigned. However, in the
example data cloud visualisation of stock price
movements described above, the numeric values of the
stock price movements (changes) are used to calculate
the font size for displaying the associated stock
symbols. Document D5 discloses that a data cloud "is
similar to a tag cloud [...] but instead of word count,
[it] displays data such as population or stock market
prices" (see the section "Data clouds" on page 3).
Consequently, the skilled person reading document D5
would understand that the formula to calculate the
display font size s_i would be applied in the case of a
data cloud based on the values of the numbers instead
of incidences of the tags. Consequently, feature G is
implicitly disclosed in document D5 or is at least
immediately obvious when reading document D5.

2.5   In view of the above discussion of the alleged
        distinguishing features, the board concludes that the
        claimed invention differs from the method of
        document D5 in that it includes the distinguishing
        feature identified by the examining division, i.e. the
        numbers are presented as such rather than by names
        (such as stock symbols) representing them. The board
        does not recognise the effect and the corresponding
        objective technical problem as formulated by the
        appellant.

2.6   The board agrees with the examining division that the
        identified distinguishing feature does not achieve any
        technical effect. At best the effect, if any, may be

that the attention of some users could be drawn to
certain numbers (having a large display font size, for
example) rather than to other numbers on the display.
Given the generality of the claim wording, certain
numbers may be displayed, for example, in a font size
too small to be readable, meaning that the user's
attention will not be drawn to those unreadable
numbers. In any case, the effect of drawing users'
attention to certain content (on a screen or on another
substrate such as paper) is not a technical effect but
concerns an alleged effect relating to the user's mind/
attention.

The appellant referred to decision T 1235/07,
Reasons 11, which correctly states how the phrase
"presentation of information" is to be interpreted. The
responsible board argued that "parts of how the
information, namely the form and way it is presented,
may also be part of the presentation of information".
In other words, the manner of presenting information
(the visual appearance), such as presenting the
information in a specific tabular format (see Figures 1
to 12 of the current application), in a specific colour
or in a chosen (font) size, relates to a presentation
of information as such and usually does not achieve any
technical effect.

Claim 1 of the main request does not specify any
application context (providing e.g. a particular
technical meaning to the data) or any interaction with
the data displayed (feature E is limited to displaying
data). For this reason alone, any arguments, such as
improved ergonomics, relating to an actual or implied
interaction with the displayed numbers are not
convincing.

With regard to the main request, it is indeed "irrelevant that the application documents as filed did not explicitly and in detail disclose an example of the invention being applied to e.g. a vehicle", since claim 1 is not limited to any application but rather is directed to a general system for visualising numbers.

In this context, the board notes that the established case law requires a technical effect over the whole scope of the claim (see e.g. decision G 1/19, points 82 to 84). Since claim 1 of the main request in hand is not limited by any features specifying that the claimed system is configured for a use of the displayed information, it is not credible that a technical effect relating to a technical application is achieved over the whole scope of the claim.

2.7   In view of the above, the board concludes that the subject-matter of claim 1 of the main request lacks inventive step (Article 56 EPC) in view of document D5 since the distinguishing feature does not contribute to any technical effect.

Auxiliary requests

3.   Claim 1 of the first to fourth auxiliary requests additionally recites features (i) to (iv) (see points IX. to XII. above), respectively, when compared with claim 1 of the main request. Claim 1 of the fifth auxiliary request adds features (ii) and (iv) to claim 1 of the first auxiliary request and further limits feature (iv) to "and other abbreviations" instead of "and/or other abbreviations" (see point XIII. above).

4.   *Inventive step*

4.1   Feature (i) merely specifies that the numbers are
          "technical" data but does not specify these data in any
          detail. Such abstract or "meta" specifications of
          technicality are usually insufficient to give the
          claimed subject-matter a technical character (see
          decision T 1227/05, Reasons 3.1.1).

          In the context of the case in hand, it is irrelevant
          whether the numbers themselves represent technical or
          non-technical data. Displaying numbers representing
          "technical" data, e.g. a page of a patent application
          containing numbers representing experimental data about
          a chemical process, is still merely achieving a
          presentation of information, which is non-technical,
          since no technical effect beyond the mere displaying is
          credibly achieved.

          The board is not convinced by the appellant's argument
          that the skilled person understands the term "technical
          data" to also include data pertaining to the operation
          of a technical device or data pertaining to an internal
          state of a device (e.g. a pressure value in a pipe or
          an engine temperature) or to an external state of a
          device (e.g. a speed value or acceleration value). In
          the context of the assessment of inventive step, only
          technical effects achieved over the whole scope of the
          claim are relevant (see point 2.6 above). The fact that
          the wording "technical data" covers certain kinds of
          data, such as measurement data, is irrelevant since the
          claim is not limited to those kinds of data.

4.2   Regarding feature (ii), the examining division argued
          that it would improve "user interaction with a data
          processing system", but the board doubts that this is

the case. Feature (ii) merely allows the user to add
numbers for generating a new visualisation. There is no
user interaction with the displayed numbers in the
sense that the user is able to select any displayed
number for a specific interaction, for example.
Moreover, contrary to the appellant's argument at the
oral proceedings, claim 1 does not specify that the
input number is a "target number" or the like for a
technical device for which the newly generated display
is then particularly useful in order to direct a user's
attention in the context of safely operating a machine.

Consequently, feature (ii) adds entering numbers in a
computer system using notorious input means. This is
implicitly disclosed in any notorious computer system
and thus also in document D5. Entering further numbers
does not contribute to achieving any technical effect
in the circumstances of the current case since the only
credible effect is a mere presentation of information
after a new recalculated display has been generated,
with the size of all the numbers depending on the value
of the input number. Consequently, the wish to add
further numbers and to recalculate the display as
claimed is a non-technical user requirement. In view of
the above, feature (ii) is at best an obvious
implementation of this non-technical user requirement.

4.3   Feature (iii) is interpreted as specifying (1) that the
        providing means is implemented by a processor (and
        software), which in the board's opinion was already
        implicit in the main request, and (2) that the numbers
        originate from a database. The board agrees with the
        examining division that D5 implicitly discloses that
        the numbers originate from some kind of database.
        Moreover, since a database is merely a data collection
        (e.g. a set of economic data stored somehow in the

computer; see e.g. decision T 154/04, Reasons 21), the
latter part of feature (iii) does not contribute to any
technical effect.

4.4   The board considers that feature (iv) merely specifies
         that the format of the numbers (in terms of units and/
         or abbreviations) is determined correctly by the system
         for generating the display using this format. In this
         context, the application in hand discloses that units
         could be "m" for millions or "bn" for billions and
         "other abbreviations which represent the magnitude of
         the numbers" could be "'" and "''" representing
         thousands and millions, respectively, for example (see
         description, page 5, last paragraph to page 6, first
         paragraph and Figure 6 as reproduced in point 1.
         above).

         Feature (iv) concerns the non-technical functionality
         (visualising numerical data) of the claimed system and
         does not achieve any technical effect. The board is not
         convinced that the alleged effect of lessening the
         cognitive burden is achieved over the whole scope of
         the claim. In any case, the board agrees with the
         examining division that lessening the user's cognitive
         burden is not a technical effect (see decision
         T 1741/08, Reasons 2.1.6 to 2.1.8).

         Furthermore, since the claimed "units" and
         "abbreviations" were known and correspond merely to
         notorious formats, feature (iv) does not go beyond a
         straightforward automation of the normal conversion of
         numbers into notorious formats involving a unit or
         abbreviation.

         In view of the above, feature (iv) is obvious, even
         when taking the limitation to "unit and other

abbreviations" in the fifth auxiliary request into
account.

4.5   It follows that none of features (i) to (iv) provides a
         basis for acknowledging an inventive step. The board
         does not recognise any technical effect caused by the
         combination of features (i), (ii) and (iv) in the
         context of claim 1 of the fifth auxiliary request.

4.6   Consequently, the subject-matter of claim 1 of each of
         the first to fifth auxiliary requests lacks an
         inventive step (Article 56 EPC).

5.   Since none of the appellant's requests can form the
         basis for the grant of a patent, the appeal is to be
         dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chair:

S. Lichtenvort   J. Geschwind

Decision electronically authenticated