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Datasheet for the decision of 13 November 2018

Case Number: T 0956/17 - 3.5.06

Application Number: 06718140.4

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IPC: G06F9/46, G01W1/00, G06Q10/00, G06Q30/00

Language of the proceedings: EN

Title of invention:
INTERACTIVE ADVISORY SYSTEM

Applicant:
Locator IP, LP

Headword:
Weather and environmental sensor network/LOCATOR

Relevant legal provisions:
EPC 1973 Art. 56
EPC Art. 123(2)

Keyword:
Amendments - added subject-matter (yes) - auxiliary request 1 (yes)
Inventive step - main request and auxiliary request 2 (no)

Decisions cited:

Catchword:

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Case Number: T 0956/17 - 3.5.06

D E C I S I O N
of Technical Board of Appeal 3.5.06
of 13 November 2018

Appellant: (Applicant)	Locator IP, LP 385 Science Road State College, PA 16803 (US)
Representative:	Richards, John Ladas & Parry LLP Temple Chambers 3-7 Temple Avenue London EC4Y 0DA (GB)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 11 November 2016 refusing European patent application No. 06718140.4 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	W. Sekretaruk
Members:	M. Müller
	A. Teale

Summary of Facts and Submissions

I. The appeal is against the decision of the examining division, with reasons dated 11 November 2016, to refuse European patent application No. 06 718 140 for lack of compliance with Article 123(2) EPC and lack of inventive step, Article 56 EPC, in particular in view of the document

D4: WO 02/09353 A2.

II. Notice of appeal was filed on 9 January 2017, the appeal fee being paid on the same day. A statement of grounds of appeal was received on 16 March 2017. The appellant requested that the decision be set aside and a patent be granted on the basis of claims according to the main request in the version of 25 August 2016 or the first and second auxiliary requests as (re-)filed with the grounds of appeal, in combination with the description and the drawings as published.

III. In the annex to a summons to oral proceedings, the board informed the appellant of its preliminary opinion that claim 1 of all requests lacked inventive step over D4, Article 56 EPC 1973. Terminological issues and objections under Article 123(2) EPC were also raised.

IV. In response to the summons, with letter dated 9 October 2018, the appellant filed amended claims 1-5, 1-8 and 1-5 according to a new main request and new auxiliary requests 1 and 2, respectively. On 12 November 2018, the appellant further indicated that it would not attend the scheduled oral proceedings and requested that "a decision be issued on the basis of the current state of the application".

V. The oral proceedings were then cancelled.

VI. Claim 1 of the main request reads as follows

"A method for collecting and outputting real-time weather or environmental condition information, the method comprising:

receiving, by a weather analysis unit, weather or environmental condition information and sensor location information from weather or environmental sensors;

storing a plurality of user profiles in a user profile database with at least two of the user profiles identifying communicator devices each associated with a different user;

storing the real-time locations of the communicator devices identified in the user profiles in a communicator location database;

determining, by the weather analysis unit, whether one or more of the weather or environmental sensors is in close proximity to one of the communicator devices by comparing the real-time locations of the communicator devices to the sensor location information of the weather or environmental sensors; and

outputting, by the weather analysis unit, the weather or environmental condition information received from the one or more weather or environmental sensors in close proximity to the communicator device to a communications network for transmittal to the communicator device in close proximity to the one or more weather or environmental sensors."

Claim 1 of auxiliary request 1 corresponds to claim 1 of the main request except that the "determining" and "outputting" steps are amended to read as follows:

"... determining, by the weather analysis unit, whether at least one of the weather or environmental sensors is in close proximity to at least one of the communicator devices by determining a unique spatial range of the at least one weather or environmental sensor and determining whether the at least one communicator device is within the unique spatial range of the at least one weather or environmental sensor;

outputting, by the weather analysis unit, the weather or environmental condition information received from the at least one weather and environmental sensor in close proximity to the at least one communicator device to a communications network for transmittal to the at least one communicator device in close proximity to the at least one weather or environmental sensor."

Claim 1 of auxiliary request 2 corresponds to claim 1 of the main request, except that all references to "weather or environmental condition information" and "weather and environmental sensors" were limited, respectively, to merely "environmental condition information" and "environmental sensor"; that the "weather analysis unit" is referred to merely as an "analysis unit"; and that references to "one or more" of the sensors and communicator devices are replaced by references to "at least one" of either.

Reasons for the Decision

The invention

1. The application addresses the problem of providing targeted reports to consumers, in particular weather forecasts (see paragraphs 6 and 7 of the description),

to users' "communicator devices" such as mobile phones (see paragraph 21).

1.1 To address this problem, the invention proposes a system with an architecture as depicted in figure 4, which contains (see also paragraphs 10-13 and 20-34)

(a) a "user input database",
(b) a "communicator location database",
(c) a "weather information database",
(d) a network of "weather and environmental sensors",
(e) a "weather analysis unit", and
(f) a suitable communication network.

1.2 *Re (a)* The *user input database* comprises, for each user, a profile specifying at least one "communicator device" and several parameters defining the user's interest in weather patterns at certain (static or dynamic) "spatial locations", at certain times or in certain time intervals (see paragraphs 20-21), or for certain "activities" (see paragraph 50 *et seq.*).

1.3 *Re (b)* The *communicator location database* comprises real-time data about the location of the communicator devices.

1.4 *Re (c)* The *weather information database* contains "real-time" - i.e. "current or near-current" - "weather data", fed by various resources such as governmental or private services (see paragraphs 27 and 32).

1.5 *Re (d)* The *sensors* of the *network* can be "of any type [...] which generates information usable for forecasting weather [...] or environmental conditions" and/or for "transmitting weather [...] or environment conditions, and/or forecasting environmental

conditions". Sensors may be arranged in a grid, wherein each sensor has an associated "spatial range", depending on the intended purpose of the sensors and the required grid density (see paragraphs 68-71 and figure 4). The sensor network is typically stationary, but sensors may also be mobile (see paragraph 71, in particular page 17, lines 1-9, and paragraphs 73 and 74).

1.6 *Re (e)* The *weather analysis unit* continuously determines whether any new weather information in the weather information database matches the user profiles and, if so, produces customized weather information and forwards it to the associated communicator devices (see paragraph 31). In order to do so, it "generates", based on the real-time weather data, "predictions of [...] weather related events" by "construct[ing] a four-dimensional database (see paragraph 33: location and time). It also receives "sensor data from the sensor network" to enhance the weather information (see paragraph 71).

1.7 The description discloses several specific scenarios, such as

(i) a user driving a car or flying in an aircraft and being interested in weather conditions within a radius around his present, and changing (i.e. "dynamic"), location (see paragraphs 36 to 39),

(ii) a user interested in the weather in a specific location irrespective of where the communicator device is located, or only at a particular time (paragraph 41),

(iii) a user interested in carrying out a given (professional, personal or recreational) activity at a given time in a given place (paragraph 50),

(iv) the use of the system for weather-related "targeted marketing", e.g. so as to send "additional snow blowers" into areas expected to receive lots of snow (see paragraphs 44-45).

Article 123(2) EPC

2. In the board's preliminary view (see the annex to the summons, point 7.1), the earlier claims suggested that it was first determined whether a particular communicator device was interested only in information from sensors in close proximity and that the relevant sensors were only then selected in order to receive relevant information and transmit it to the communicator device. In other words, the earlier claims suggested that sensors might deliver information only on demand to individual communicator devices. This was in conflict with the overall system architecture as depicted in figures 1 and 4, according to which the weather analysis unit would first receive *all* weather information and then produce customized information based on user profiles.

2.1 The amended claims now specify that the sensors deliver their weather and environmental information to the weather analysis unit enriched with "sensor location information", so that the weather analysis unit can, later and for any particular communicator device at a given location, select only the information from sensors in "close proximity to the communicator device".

2.2 With this clarification, the board has no reason to maintain its corresponding objection under Article 123(2) EPC.

3. However, another objection is maintained.

3.1 Claim 1 of the first auxiliary request specifies that "close proximity" is determined in view of a "spatial range" defined for the sensors.

3.2 The term "spatial range" associated with individual sensors is disclosed in paragraph 68 of the description as defining the distance between pairs of sensors in the grid, but not a possibly relevant "close proximity" between a sensor and a communicator device.

3.3 The board agrees with the appellant (see its letter of 9 October 2018) that the accuracy of sensor data might be low outside some spatial range around the sensor and that, therefore, the data might only be of interest to users within that range. However, the description merely discloses that "the spatial range associated with each sensor 48b can be selected by the user and specified as a result of the sensor 48b type and purpose as well as the density of the sensor network". The application does not disclose that this potential (lack of) user interest is implemented by taking a spatial range associated with a sensor as the user's (implicit) range of interest.

3.4 In view of the appellant's arguments in its letter of 9 October 2018 (pages 8-10, section 2B), it may be added that using a sensor's "spatial range" as a user's "range of interest" may well be obvious without, at the same time, being originally disclosed by the application within the meaning of Article 123(2) EPC.

3.5 The board concludes, agreeing with the decision under appeal (see points 16 and 17 of the reasons), that

claim 1 of auxiliary request 1 does not comply with Article 123(2) EPC.

Terminology

4. The claims according to the main request and auxiliary request 1 refer to "weather or environmental condition information" and "weather or environmental sensors". Thus, they cover the alternative "weather information" and "sensors". The claims of auxiliary request 2, however, are limited to "environmental condition information" and "environmental sensors".

4.1 The description gives a number of examples for environmental sensors, some of which arguably do not produce "weather information", for instance "soil temperature" or "moisture" (see paragraphs 69 and 70). However, other such examples fall, in the board's judgment, within the scope of what qualifies as "weather information", in particular "air temperature", "humidity" or "wind speed and direction" (*loc. cit.*). Moreover, the description states explicitly that environmental sensors are meant to subsume "any type of sensor" providing information "usable", *inter alia*, for "forecasting weather" and "transmitting current weather conditions" (see paragraph 69). In view of this, the board opines that the terms "environmental condition information" and "environmental sensors" must be construed so broadly as to subsume "weather information" and "weather sensors", respectively.

4.2 In this, the board maintains its preliminary interpretation (see point 6 of the annex to the summons), the appellant's observations to the contrary

notwithstanding (see the letter of 9 October 2018, pages 11-12, section 3B).

5. The claims according to all requests refer to "close proximity" between the sensors and communicator devices without however specifying this distance.

5.1 The description uses the term "close proximity" - in fact, even the term "proximity" alone - only in one place in the description (see paragraph 74). In the example discussed there, a sensor on a Federal Express truck at a five mile distance is considered to be in close proximity to the subscriber.

5.2 Elsewhere, and without reference to the individual sensors, the application discloses that the driver of a vehicle may be interested in hailstorms which are 2.5 miles ahead of a vehicle (see paragraphs 36-38) and that a user flying in an aircraft may be interested in icing conditions within a 10 mile radius (see paragraph 39).

5.3 These distances are all in the same order of magnitude. Accordingly, there is no basis in the description to interpret the "close proximity" any differently from the user's range of interest in weather information, as specified in or derived from the user profile (see paragraph 40).

The prior art

6. D4 is a patent application by the same inventors disclosing a very similar system. In particular, D4 contains an identical figure 1, which depicts the system architecture, except for the network of weather and environmental sensors, which, in the present

application, is disclosed in figure 4 and described in paragraphs 68-71. Also, D4 discloses the scenarios mentioned above, but nothing corresponding to present paragraph 74.

Inventive step

7. According to the system architecture depicted in figure 1 of D4 and the corresponding description (see, in particular, paragraphs 27 and 32), the central weather analysis unit receives, from various resources, "real-time weather data" via a weather information database. Evidently, the real-time weather data is obtained from suitable sensors and comes with associated location information. While D4 does not explain in detail the nature of the "real-time weather data", neither does the application explain the nature of the data produced by the sensors. Therefore, the description does not allow any conclusion as to how "raw" the claimed sensor data is in comparison to the "real-time weather data" of D4 (see the appellant's letter of 9 October 2018, page 3, paragraph 3).

8. Moreover, the weather forecast produced by D4 contains weather information at individual locations (see paragraph 33).

8.1 With a view to the language of claim 1 (of all requests), the board therefore considers that D4 discloses the weather analysis unit receiving "weather information" and "location information", comparing the "real-time location of the communicator devices" with the weather location information, and outputting an individualized report on weather within a user-specific range of interest (see e.g. paragraph 31), i.e. within

"close proximity" of a user's communicator device (see point 5 above).

8.2 The appellant argues that the data contained in the weather information database according to D4 is interpolated for geographic locations at which no measurement is taken and for times between sensor readings (see the letter of 9 October 2018, page 7, paragraphs 2 and 3).

8.2.1 In fact, however, D4 does not mention interpolation. While it is disclosed (see paragraph 32) that weather data in the database may only be "near-current", in the sense of being updated, for instance, only every 30 minutes, it is not disclosed that the weather data is interpolated during these 30 minutes, let alone that interpolated weather data is stored in the weather information database. Likewise, there is no explicit disclosure that the weather information database contains geographically interpolated data.

8.2.2 That said, the weather information output to the communicator devices will typically require geographical interpolation and temporal intra- and extrapolation (see paragraph 33).

9. The weather analysis unit of D4 generates weather predictions from the real-time weather data. In doing so, the weather analysis unit constructs a "four-dimensional database" which, as the board understands the relevant paragraph 33, can be queried by (or on behalf of) users.

9.1 As a consequence, D4 disclose all features of claim 1 of the main request except for the steps of

i) "determining" whether one or more individual sensors are within a range of interest (see point 4 above) around a communicator device, and
ii) outputting information received from the so-determined sensors [...] to the communicator device".

9.2 In other words, the claimed invention enables users to obtain the data provided by individual sensors (rather than only calculated by way of interpolation) within a range of interest. The board presumes that the appellant meant to make this point when stating that the invention allowed the transmission of "raw sensor data" (see letter of 9 October 2018, page 3, paragraph 3). Notably, the claimed invention does not exclude that interpolated weather information is also transmitted.

9.3 The board considers that the effect of these features is that the user receives at least certain pieces of information - namely those of individual sensors - with the highest possible accuracy ("raw"). Notably, the invention does not exclude the possibility that interpolated weather information is also output.

9.4 In the context of the weather predictions disclosed in D4, these sensor data have an explanatory value; they allow interested users to assess the quality of the interpolated weather predictions by making reference to the weather conditions measured by actual sensors.

9.5 Starting from D4, the board considers it obvious to keep in the constructed "four-dimensional database" information regarding which measurements at which

locations and at which points in time were obtained by actual sensors.

9.6 The board also considers it obvious for users of D4 to be interested not only in the weather at a particular location but in a region around it (e.g. within a range of 1 mile around the clubhouse to cover the entire golf course).

9.7 The system of D4 needs only marginal modifications to provide that service, i.e. to display weather information in an entire region around a location of interest. If, moreover, the actual sensor information were kept, it could, without any effort, be displayed to the user, too. The skilled person would consider this option simply in order to improve the accuracy of the information provided to the user.

9.8 Accordingly, the board comes to the conclusion that claim 1 of the main request lacks inventive step over D4, Article 56 EPC 1973.

Auxiliary request 2

10. In view of the board's interpretation of "environmental condition information" and "environmental sensors" (see point 3 above), the fact that an "analysis unit" is, at best, more general than a "weather analysis unit" and the further fact that "one or more" is equivalent to "at least one", the scope of claim 1 of auxiliary request 2 is identical to that of the main request. Accordingly, the analysis of claim 1 of the main request also applies to that of auxiliary request 2, which is, hence, found to lack inventive step over D4, Article 56 EPC 1973.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

B. Atienza Vivancos W. Sekretaruk

Decision electronically authenticated