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Datasheet for the decision of 19 June 2019

Case Number: T 2038/14 - 3.5.07

Application Number: 09175016.6

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Title of invention:
Location based system utilizing geographical information from documents in natural language

Applicant:
Robert Bosch GmbH

Headword:
Using geographic information from natural language text/ROBERT BOSCH

Relevant legal provisions:
EPC Art. 54(2), 56

Keyword:
Novelty - main request (no)
Inventive step - first and second auxiliary requests (no)

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Case Number: T 2038/14 - 3.5.07

D E C I S I O N
of Technical Board of Appeal 3.5.07
of 19 June 2019

Appellant: (Applicant)	Robert Bosch GmbH Postfach 30 02 20 70442 Stuttgart (DE)
Representative:	Isarpatent Patent- und Rechtsanwälte Behnisch Barth Charles Hassa Peckmann & Partner mbB Postfach 44 01 51 80750 München (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 3 June 2014 refusing European patent application No. 09175016.6 pursuant to Article 97(2) EPC**

Composition of the Board:

Chairman	R. Moufang
Members:	P. San-Bento Furtado
	C. Barel-Faucheux

Summary of Facts and Submissions

I. The appeal lies from the decision of the Examining Division to refuse European patent application No. 09175016.6 for lack of inventive step of the subject-matter of the claims of the main request and of claim 1 of the first and second auxiliary requests over prior art document

D3: MetaCarta: "MetaCarta White Paper: MetaCarta GTS and MetaCarta GeoTagger (Enterprise versions)", Version 3.0, March 2008.

II. In the statement of grounds of appeal, the appellant requested that the decision be set aside and that a patent be granted on the basis of the main request or one of the two auxiliary requests considered in the appealed decision.

III. In a communication accompanying a summons to oral proceedings, the Board noted that document D3, which had been retrieved from the internet, indicated on its cover page that it was published as a confidential document. After assessing the evidence at hand, including the printout of an archived web page annexed to the Board's communication, the Board was convinced that document D3 had been made public before the present application's priority date and should be regarded as prior art within the meaning of Article 54(2) EPC.

The Board was of the preliminary opinion that the subject-matter of claim 1 of the main request lacked novelty over the disclosure of document D3 and was not inventive over the prior art acknowledged in paragraphs [0002] to [0006] of the description. With regard to claim 1 of the first and second auxiliary requests, the

Board raised questions concerning clarity and added subject-matter and was of the preliminary view that the claimed subject-matter was not inventive over document D3.

IV. In a letter of reply, the appellant withdrew the request for oral proceedings, informed the Board that it would not attend the oral proceedings and requested a decision according to the state of the file. The appellant did not make any submissions in reply to the Board's objections.

V. Oral proceedings were held on 19 June 2019 in the absence of the appellant. At the end of the oral proceedings, the chairman pronounced the Board's decision.

VI. 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 and second auxiliary requests.

VII. Claim 1 of the main request reads as follows:
"A method of operating a location-based system, wherein the location-based system performs the steps of:
identifying a plurality of portions of geographic information within unstructured electronic text;
extracting the identified portions of geographic information from the unstructured electronic text; and
determining candidate geographic locations to which one of the identified portions of geographic information may refer;
wherein the geographic information including [sic] at least one of street information, address information, and a name of a location;
the method characterized in that it further comprises the steps of:

automatically, by use of the location-based system, selecting one of the candidate geographic locations; and

utilizing an alphanumeric representation of the selected geographic location in a location-based service."

VIII. Claim 1 of the first auxiliary request differs from that of the main request in that

- "utilizing an alphanumeric representation of" has been replaced with "utilizing a [sic] alphanumeric representation that uniquely identifies", and
- the following text has been added at the end:

"wherein coordinates and a complete address of a selected candidate geographic location are set into relation with a textual description in the unstructured electronic text of said location-based system."

IX. Claim 1 of the second auxiliary request differs from that of the first auxiliary request in that

- "unstructured electronic" has been deleted from "extracting the identified portions of geographic information from the unstructured electronic text",
- "location-based" has been deleted from "automatically, by use of the location-based system, selecting one of the candidate geographic locations;" and
- the following text has been added at the end:

"wherein while selecting one of the candidate geographic locations, the selecting being dependent upon other ones of the identified portions of geographic information;

ascertaining geographic coordinates of the selected geographic location; and

utilizing the geographic coordinates of the selected geographic location in a location-based service."

X. The appellant's arguments, where relevant to this decision, are addressed in detail below.

Reasons for the Decision

1. The appeal complies with the provisions referred to in Rule 101 EPC and is therefore admissible.

Invention

2. The invention relates to a method for deriving geographic location data from unstructured data, such as online travel guides or homepages with contact addresses, and providing it to a location-based system. The derived geographic location data can then be used to support location-based services such as navigation and map services (see paragraphs [0001], [0012], [0013] and [0023] of the application as originally filed).

2.1 The method consists essentially of the steps of identifying and then extracting portions of geographic information from the unstructured electronic text, determining corresponding candidate geographic locations, selecting one of the candidates, and ascertaining the geographic coordinates of the selected geographic location (see original claims 1 and 2, paragraphs [0062] to [0067], Figure 3). More than one location may be selected (original claim 8). An online map or a database may be used to determine the coordinates (paragraph [0066]).

2.2 Geographic information may include geographic coordinates as well as geographic regions, geopolitical

entities, geographic features, points of interest, traffic infrastructure or telephone numbers indirectly denoting a geographical area (paragraph [0025]). The invention uses linguistic methods to isolate potential geographic locations by "geo-parsing" (paragraphs [0026] and [0029]). According to paragraphs [0032] to [0037], the invention may employ a number of known approaches for information extraction.

Document D3 as prior art

3. For the reasons given in the Board's communication under Article 15(1) RPBA, to which the appellant did not reply, document D3 is regarded as constituting prior art within the meaning of Article 54(2) EPC for the present application.

Main Request

4. *Novelty - claim 1*

4.1 Document D3 discloses geoparsing tools capable of extracting geographic locations from unstructured electronic text, by extracting references to locations from the text, and "resolving the geographic meaning of each location as intended by the author" of the unstructured text. Document D3 refers in particular to two MetaCarta tools: Geographic Text Search (GTS) and GeoTagger (page 3, "Introduction", third and fourth paragraphs).

4.2 Those tools use natural language processing to identify a geographic reference and understand which place the author intends (page 3, "Introduction", sixth paragraph; page 8, "MetaCarta GeoTagger", first paragraph). They rely on a knowledge base to "identify and disambiguate geographic references, assign

latitude/longitude coordinates, confidence scores and relevance ranking" (page 3, "Core Technologies", first paragraph). For example, since there are more than 70 places in the world named "Paris", the tool considers text surrounding a reference to "Paris" within the document to assign a higher confidence to a specific place (page 3, "Introduction", sixth paragraph).

Therefore, document D3 discloses a location-based system performing the steps of identifying and extracting one or more portions of geographic information within unstructured electronic text, determining corresponding candidate geographic locations, wherein the geographic location may include a location name, and using an alphanumeric representation of the geographic location.

Document D3 further describes on pages 8 and 9 how the result output by the GeoTagger is used by a downstream system supporting a location-based service. The GeoTagger outputs an XML file for each text document processed, the XML file containing "a geographic tag with latitude/longitude coordinates and a geoconfidence value for each of the recognized geographic references within the source document" (page 8, fifth text paragraph). The downstream system receives the XML file and considers the confidence score for each location (page 8, last paragraph).

4.3 In its statement of grounds of appeal the appellant argued that document D3 failed to disclose that at least one candidate geographic location is automatically selected. The system only provided a list of candidate locations with confidence scores as a selection basis. According to document D3, page 8, last paragraph, to page 9, first paragraph, in order to act

on the output of the system, some other downstream system had to consider a confidence score for each candidate location and select a subgroup of candidate locations.

The Board does not find those arguments convincing. In the method of claim 1, the selection step selects one of the candidates "to which one of the [...] portions of geographic information may refer". In the Geotagger and downstream system of pages 8 and 9 of document D3, one "geographic tag with latitude/longitude coordinates" is sent "for each of the recognized geographic references within the source document" (page 8, fifth text paragraph). This means that before sending the geographic tags in the XML file a disambiguation has already taken place for each of the references in the source document ("portion of geographic information" in the language of the claim). The process of disambiguating of D3 is a process of automatically selecting one of a plurality of candidates. With regard to disambiguating "Paris", document D3 explains that "MetaCarta can assign a higher confidence to a specific place" from the more than 70 places named "Paris". Document D3 also discloses that the system has the "ability to 'ground' a place's name to a single location" (page 3). The geographic tag and geoconfidence value for a single geographic reference sent by the GeoTagger to the downstream system, as disclosed on page 8, is therefore already the result of the disambiguation, i.e. of the selection of one of the candidates to which a portion of geographic information may refer.

Furthermore, since the GeoTagger sends the list of coordinates and respective geoconfidence values to the downstream system in an XML file (see e.g. page 8,

Figure 4), it uses an alphanumeric representation of the geographic location in a location-based service.

In the decision under appeal, the Examining Division considered that the GeoTagger corresponded to the location-based system of the claim, and the downstream system receiving the data output from the GeoTagger provided a location-based service. The Board notes however that, since the claim does not define any architectural characteristics of the location-based system, and does not mention a system providing the "location-based service", the combination of the GeoTagger and downstream system may be seen together as the location-based system of claim 1.

4.4 Therefore, the method of claim 1 lacks novelty over document D3, contrary to the requirements of Articles 52(1) and 54(1) and (2) EPC.

First and second auxiliary requests

5. Claim 1 of the first auxiliary request differs from that of the main request in that it further specifies that

(a) coordinates and a complete address of a selected candidate geographic location are set in relation to a textual description in the unstructured electronic text of said location-based system;

(b) the alphanumeric representation uniquely identifies the selected geographic location.

6. Claim 1 of the second auxiliary request essentially adds that

(c) selecting one of the candidate geographic locations is dependent upon other identified portions of geographic information;

(d) geographic coordinates of the selected geographic location are ascertained and used in a location-based service.

7. *Inventive step - first auxiliary request*

7.1 In the process of determining the geographic locations from the textual descriptions in the system of document D3, a relationship is established between textual descriptions and corresponding geographic locations coded as coordinates (see also page 8, "MetaCarta GeoTagger", fifth paragraph). Furthermore, the system of document D3 already supports postal addresses (page 6, "MetaCarta U.S. Street Address GDM").

The coordinates used in document D3 uniquely identify the geographic locations.

With regard to the first auxiliary request, the only feature distinguishing the method of claim 1 from document D3 is thus that not only the coordinates but also a complete address is set in relation to a textual description. According to the Board's understanding of the claim, which was not contested by the appellant, a complete address is a widely known and universally used identifier of a location, which can be used to identify a building, a house or an apartment. As explained above, the system of document D3 already supports address information. The further use of a complete address together with the coordinates is thus a minor obvious modification of the method of D3 to allow the identification of further locations such as a building or an apartment.

7.2 Therefore, claim 1 of the first auxiliary request does not fulfil the requirements of Articles 52(1) and 56 EPC for lack of an inventive step.

8. *Inventive step - second auxiliary request*

8.1 As explained above, in the system of D3 the GeoTagger sends coordinates to the downstream system (paragraph bridging pages 8 and 9). Feature (d) is therefore also known from the method disclosed in document D3.

8.2 The subject-matter of claim 1 of the second auxiliary request further differs from the method of document D3 in that one of the candidate geographic locations is selected on the basis of the other portions of geographic information (feature (c)).

8.3 According to the appellant, the invention of the second auxiliary request improved the accuracy of operation of a location-based system by improving filtering of randomly geographically dispersed candidate geographic locations. The appellant did not explain why the improved accuracy was achieved.

According to paragraph [0065] of the description as published, in order to compile the list of candidate geographic locations the system of the invention may consider "the cities, counties and countries" discussed in the same document. The logic behind that feature is that a document usually refers to several locations in the same area and in such cases geographic references mentioned in the document can be used to disambiguate other geographic references in the same document. That improves the accuracy of the disambiguation. However, claim 1 does not mention a document nor the proximity in the unstructured text of the portions of geographic information used to select one candidate. It is therefore arguable whether accuracy is improved by the method as claimed.

In addition, even if the claim were interpreted in the light of the description, and an improved accuracy were recognised, the method would not be considered to involve an inventive step.

The considerations of paragraph [0065] are of a non-technical linguistic nature and obvious. The principle that a document often refers to several locations in the same area is well known.

Furthermore, document D3 discloses considering surrounding text within a document to disambiguate references to geographic locations (page 3, "Introduction", sixth paragraph). It would therefore be obvious to take into account other references to geographic locations in the same document (or part of the document) in order to select a geographic location from a list of candidates for the given reference.

8.4 Hence, claim 1 of the second auxiliary request does not fulfil the requirements of Articles 52(1) and 56 EPC for lack of an inventive step.

Concluding remarks

9. In its letter of reply, the appellant did not refute the Board's arguments.

10. Since none of the requests on file is allowable, the appeal is to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

I. Aperribay R. Moufang

Decision electronically authenticated