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**Datasheet for the decision
of 22 June 2012**

Case Number: T 1356/08 - 3.4.01
Application Number: 06100067.5
Publication Number: 1679692
IPC: G10L 15/18, G10L 15/22
Language of the proceedings: EN

Title of invention:

A library of existing spoken dialog data for use in generating new natural language spoken dialog systems

Applicant:

AT&T Corp.

Opponent:

-

Headword:

-

Relevant legal provisions:

EPC Art. 123(2)
RPBA Art. 12(1), 13(1), 12(4)

Keyword:

"Admissibility of late filed requests"

Decisions cited:

-

Catchword:

-



Case Number: T 1356/08 - 3.4.01

D E C I S I O N
of the Technical Board of Appeal 3.4.01
of 22 June 2012

Appellant: AT&T Corp.
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NY 10013-2412 (US)

Representative: L. Trichard
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 22 February 2008
refusing European patent application
No. 06100067.5 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman: G. Assi
Members: P. Fontenay
A. Pignatelli

Summary of Facts and Submissions

- I. European patent application No. 06 100 067.5 (publication number 1 679 692) was refused by a decision of the examining division dispatched on 22 February 2008.

During the oral proceedings before the examining division on 4 February 2008, it was held that the subject-matter of the independent claims filed by fax on 1 February 2008 *prima facie* infringed the requirements of Article 123(2) EPC. The examining division, more specifically, considered that the amendment in the independent claims pertaining to building a new spoken dialog system for use in a different industrial sector to the particular industrial sector was not disclosed in the application as filed. The request was therefore not admitted in the examination proceedings pursuant to Rule 137(2) EPC (read Rule 137(3) EPC). The examining division further held that the subject-matter of independent claims 1 and 10 of the previous request filed on 31 December 2007 did not involve an inventive step.

- II. The appellant (applicant) lodged an appeal against this decision by notice filed on 22 April 2008. The prescribed appeal fee was paid on the same day. The statement setting out the grounds of appeal was filed on 20 June 2008.

In the statement setting out the grounds of appeal, the appellant requested that a patent be granted on the basis of the claims according to a main request, corresponding to the request filed on 1 February 2008,

or, alternatively, on the basis of the claims according to an auxiliary request filed with the statement of grounds of appeal.

III. In a communication of 29 March 2012 pursuant to Article 15(1) RPBA, the Board expressed its provisional opinion with regard to the requests then on file. In this respect, the Board indicated that the decision of the examining division not to admit the request filed on 1 February 2008 in the examination proceedings appeared to be justified. In particular, the Board was not convinced that the various passages or claims in the original application referred to by the appellant constituted a sufficient basis under Article 123(2) EPC for the amendment mentioned above. In the Board's view, it was also questionable whether a sufficient basis existed in the original disclosure for the amended claim 1 of the auxiliary request. Finally, the Board also expressed its doubts as to whether the requests on file met the requirements of Articles 84 and 83 EPC 1973 as to clarity and sufficiency of disclosure, respectively.

IV. With a letter dated 21 May 2012, the appellant submitted a new set of requests including a main request and four auxiliary requests in which the former main and auxiliary requests filed in the statement of grounds had been retained as first and second auxiliary requests.

The appellant further presented arguments as to why, in its view, the comments made by the Board with regard to added subject-matter, clarity and sufficiency of disclosure in relation to the first and second

auxiliary requests on file (previous main request and auxiliary request) were not justified. Although not directly addressing the issue of the admissibility of the other requests, the appellant indicated that the new requests were filed for reasons of expediency and thus aimed to overcome the concerns expressed by the Board in its previous communication.

- V. Oral proceedings before the Board took place on 22 June 2012 in presence of the appellant's representative. Following the discussion of the main request and four auxiliary requests, the appellant filed two additional auxiliary requests 5 and 6. The appellant requested thus that the decision under appeal be set aside and that a patent be granted on the basis of one of the set of claims according to the following requests:
- main request filed on 21 May 2012,
 - first auxiliary request filed on 20 June 2008 as main request,
 - second auxiliary request filed on 20 June 2008 as auxiliary request,
 - third auxiliary request filed on 21 May 2012,
 - fourth auxiliary request filed on 21 May 2012,
 - fifth auxiliary request filed during oral proceedings
- or
- sixth auxiliary request filed during oral proceedings.

- VI. Claim 1 of the main request reads:

"1. A machine-implemented method for building a library of reusable components for use in building a natural language spoken dialog system in a particular industrial sector, the method comprising:

storing a dataset in a database, the dataset including a plurality of reusable components for building said natural language spoken dialog system, the reusable components including a plurality of previously collected audible utterances,

the method further comprising:

storing a plurality of further datasets, wherein each of the further datasets further comprises a plurality of reusable components pertaining to a different industrial sector."

Claims 2 to 7 of the main request are dependent claims.

Claim 1 of the first auxiliary request reads:

"1. *A machine-readable storage medium comprising:
a plurality of components suitable for reuse for building a spoken dialog system, characterized in that the components include a plurality of previously collected utterances belonging to a call-type, the call type being assigned an attribute indicating that the call-type is reusable, the components further including a spoken language understanding model, and an automatic speech recognition model, wherein the automatic speech recognition model relates to a particular industrial sector and the collected utterances are grouped according to the particular industrial sector, wherein the plurality of components are so arranged as to be usable to build a new spoken dialog system for use in a different industrial sector to the particular industrial sector."*

Independent claim 10 of the first auxiliary request reads:

"10. A method to build a library of components suitable for reuse for use in building a natural language spoken dialog system, comprising:

storing a dataset (302) in a database, the dataset (302) including a plurality of components arranged to be usable for building a spoken dialog system (100),

the components including a plurality of previously collected utterances belonging to a call-type, the call type being assigned an attribute indicating that the call-type is reusable, and the components further including, a spoken language understanding model, and an automatic speech recognition model, wherein the automatic speech recognition model relates to a particular industrial sector and the collected

utterances are grouped according to the particular industrial sector, and the spoken dialog system pertains to a different industrial sector to the particular industrial sector."

Claims 2 to 9 and 11 to 22 of the first auxiliary request depend on independent claims 1 and 10, respectively.

Claim 1 of the second auxiliary request reads:

"1. A method of building a library of components suitable for reuse in building a natural language spoken dialog system, the method comprising:

collecting data into a plurality of individual data collection databases (304-1, 304-2...);

generating a sector database from a plurality of individual data collection databases (302);

the method characterized by generating a call-type library hierarchy from the plurality of individual databases and the sector database, wherein the call-type library hierarchy includes category, verb, call-type, and utterance items hierarchical parameters;

training an automatic speech recognition model (102) from transcriptions of utterances within the collected data;

training a spoken language understanding model (104) from call-type labels assigned to utterances within the collected data; and

building a library of components suitable for reuse in building a natural language spoken dialog system, wherein the components comprise at least the automatic speech recognition model, the spoken language understanding model, and the call type library hierarchy."

Claims 2 to 7 of the second auxiliary request are dependent claims.

Claim 1 of the third auxiliary request reads:

"1. A machine-readable storage medium comprising:
a plurality of datasets (302) comprising a plurality of reusable components for use in building a natural language spoken dialog system, characterized in that

each of the datasets (302) includes data pertaining to a particular industrial sector from a multiple of industrial sectors, the data including reusable components comprising a plurality of

previously collected utterances belonging to a call-type, the call type being assigned an attribute indicating that the call-type is reusable, the reusable components further comprising a spoken language understanding model, and an automatic speech recognition model, wherein the automatic speech recognition model relates to the particular industrial sector and the collected utterances are grouped according to the particular industrial sector, wherein one or more call-types are so arranged to belong to one or more of the multiple industrial sectors for use in building a new natural language spoken dialog system in an industrial sector."

Independent claim 9 of the third auxiliary request reads:

"9. A method to build a library of reusable components for use in building a natural language spoken dialog system (100), comprising:

storing a plurality of datasets (302) in a database, each of the datasets includes data pertaining to a particular industrial sector from a multiple of industrial sectors, each of the datasets (302) including a plurality of reusable components arranged for use in building a natural language spoken dialog system (100), the reusable components including a plurality of previously collected utterances belonging to a call-type, the call type being assigned an attribute indicating that the call-type is reusable, and the components further including, a spoken language understanding model, and an automatic speech recognition model, wherein the automatic speech recognition model relates to a particular industrial

sector and the collected utterances are grouped according to the particular industrial sector, wherein one or more call-types are so arranged to belong to one or more of the multiple industrial sectors for use in building a new natural language spoken dialog system in an industrial sector."

Claims 2 to 8 and 10 to 19 of the third auxiliary request depend on independent claims 1 and 9, respectively.

Claim 1 of the fourth auxiliary request reads:

"1. A method of building a library of components suitable for reuse in building a natural language spoken dialog system, the method comprising:

- collecting data into a plurality of individual data collection databases (304-1, 304-2...);*
- generating a sector database from a plurality of individual data collection databases (302);*
- the method characterized by generating a call-type library hierarchy from the plurality of individual databases and the sector database, wherein the call-type library hierarchy includes category, verb, call-type, and utterance items hierarchical parameters;*
- training an automatic speech recognition model (102) from transcriptions of utterances within the collected data;*
- building a spoken language understanding model (104) from call-type labels assigned to utterances within the collected data; and*
- building a library of components suitable for reuse in building a natural language spoken dialog system, wherein the components comprise at least the*

automatic speech recognition model, the spoken language understanding model, and the call type library hierarchy."

Claims 2 to 7 of the fourth auxiliary request are dependent claims.

Claim 1 of the fifth auxiliary request reads.

"1. A machine-implemented method for building a library of reusable components from existing natural language spoken dialog systems for use in building a new natural language spoken dialog system, the method comprising:

storing a dataset in a database, the dataset including a plurality of reusable components, the reusable components for use in building said new natural language spoken dialog system, wherein each of the plurality of reusable components include a plurality of collections of previously collected utterances and associated labels for call-types and named entities; and

storing a plurality of datasets in the database, wherein each of the datasets further comprises a plurality of the reusable components pertaining to a different industrial sector."

Claims 2 to 7 of the fifth auxiliary request are dependent claims.

Claim 1 of the sixth auxiliary request reads:

"1. A method of building a library of components suitable for reuse in building a natural language spoken dialog system, the method comprising:

collecting data into a plurality of individual data collection databases (304-1, 304-2...);

generating a sector database (302) from the plurality of individual data collection databases, wherein each of the plurality of individual data collection databases pertains to a different industrial sector;

the method characterized by generating a call-type library hierarchy from each of the plurality of individual databases and the sector database, wherein the call-type library hierarchy includes category, verb, call-type, and utterance items hierarchical parameters;

wherein the each of the plurality of individual databases comprise a [sic] automatic speech recognition model, a spoken language understanding model, and the call type library hierarchy."

Claims 2 to 7 of the sixth auxiliary request are dependent claims.

Reasons for the Decision

1. *Applicable law*

This decision is issued after the entry into force of the EPC 2000 on 13 December 2007 whereas the application was filed before this date. Reference is thus made to the relevant transitional provisions for the amended and new provisions of the EPC, from which it may be derived which Articles and Rules of the EPC

1973 are still applicable to the present application and which Articles and Rules of the EPC 2000 are to apply. When Articles or Rules of the former version of the EPC are cited, their citations are followed by the indication "1973" (cf. EPC, Citation practice).

2. *Admissibility of the appeal*

The notice of appeal and the corresponding statement of grounds comply with the requirements of Articles 106 to 108 EPC and Rule 99 EPC. The appeal is, thus, admissible.

3. *Main request - Admissibility*

- 3.1 In accordance with Article 12(1)(a)(c) RPBA, ex parte appeal proceedings shall be based on the notice of appeal, the statement of grounds of appeal, any communication sent by the Board and any answer thereto filed pursuant to directions of the Board. However, the conditions set down in Articles 12(4) and 13(1)(3) RPBA also have to be taken into account when new requests are filed.

Concerning the current main request, it is observed that it was filed in the course of the appeal proceedings, following the issuance by the Board of its provisional opinion with regard to the previously pending main and auxiliary requests. Under Article 13(1) RPBA, a board has a discretion to admit and consider any amendment to the party's case, in particular new requests, presented by the appellant after it has filed the statement of grounds of appeal. The discretion shall be exercised in view of *inter alia*

the complexity of the new subject matter submitted, the current state of the proceedings and the need for procedural economy.

In this respect, a criterion commonly applied by the boards of appeals consists in determining whether the new requests overcome outstanding objections under the EPC and do not give rise to new objections (cf. Case law of the Boards of Appeal, 6th Edition 2010, VII.E, sections 16.4 and 16.5).

- 3.2 In the Board's judgement, the problem of added subject-matter which was raised in the communication of the Board of 29 March 2012 with regard to the main request then pending still applies to claim 1 of the new main request. It is, in particular, observed that the step of "*storing a dataset in a database*" does not specify whether this first dataset pertains to the particular industrial sector referred to in the heading of claim 1 or to a different one. In the absence of any such specification, the claim covers various alternatives including, among others, the possibility of the natural language spoken dialog system being built from a dataset belonging to a different industrial sector.

The Board rejects the appellant's view according to which original claims 9 and 10 and the indication in paragraph [0024] of the published application that "*A given call-type may belong to a single industrial sector or to multiple industrial sectors*" constitute a sufficient basis for current claim 1. As a matter of fact, original claim 10 suggests that the step of storing a dataset in a database recited in independent claim 9, on which claim 10 depends, is repeated for a

multiplicity of datasets, namely datasets representative of different industrial sectors or different categories. In this respect, the teaching of original claims 9 and 10 differs substantially from the teaching of current claim 1 of the main request according to which the step of storing a plurality of further datasets complements a first step of storing a dataset, whose data do not belong to any specific industrial sector.

Moreover, the mere fact that a given call-type may belong to multiple industrial sectors does not necessarily imply that a natural language spoken dialog system may be built from data pertaining to different industrial sectors.

The Board is thus unable to find any basis in the original application documents for the generalisation resulting from the wording of claim 1 of the main request.

- 3.3 For these reasons, the Board considers that the main request filed after the statement of grounds does not overcome the objection of added subject-matter first raised by the examining division and then reiterated by the Board in its communication. Making use of its discretionary power under Article 13(1) RPBA, the Board thus decides not to admit the main request in the appeal proceedings.

4. *First auxiliary request*

The first auxiliary request corresponds to a request which was filed on 1 February 2008 during the

examination proceedings but was not admitted by the examining division which held that it had been filed at a late stage of the examination proceedings and *prima facie* violated the dispositions of Article 123(2) EPC.

According to Article 12(4) RPBA, the Board has the power to hold inadmissible requests which were not admitted in the first instance proceedings. When reviewing discretionary decisions of a department of first instance, it is not the function of a board of appeal to review all the facts and circumstances of the case but simply to assess whether the first instance department made use of the right principles when exercising its discretionary power and applied them in a reasonable way (cf. Case law of the Boards of appeal, 6th Edition 2010, VII.E, section 6.6).

The Board, under the present circumstances, concurs with the examining division in its finding that the set of claims filed by fax on Friday 1 February 2008, i.e. three days before the oral proceedings scheduled to take place on 4 February 2008, was indeed filed at a very late stage of the examination proceedings. It thus rejects the appellant's view that the claims filed on 1 February 2008 were not late filed since the examining division had been warned during a phone conversation, which took place a few days before, of the applicant's intention to file such a new set of claims.

Since, moreover, it is well-established practice for examining divisions to decide on the admissibility of late filed requests on the basis of *prima facie* considerations, the Board does not find fault in the

approach followed by the examining division in the present case.

Furthermore, also the Board fails to identify any clear basis in the original application for the feature according to which the new spoken language dialog system to be built relates to a different industrial sector. Since an amendment under Article 123(2) EPC is only allowable if it derives directly and unambiguously from the original application documents, the conclusion reached by the examining division is conform to the jurisprudence of the boards of appeal.

Consequently, the finding according to which the claims filed on Friday 1 February 2008 were late filed is correct. Moreover, in the Board's judgement, the examining division made a correct application of the principles governing the admissibility of late filed request and applied said principles in a manner in agreement with established practice. For these reasons, the Board decides not to admit the first auxiliary request into the appeal proceedings (Article 12(4) RPBA).

5. *Second auxiliary request*

5.1 The second auxiliary request was filed for the first time with the statement of grounds of appeal. It is thus admissible under Articles 12(4) and 12(1)(a) RPBA.

5.2 Claim 1 defines "*a method of building a library of components suitable for reuse in building a natural language spoken dialog system*" for which no basis can

be found in the original application documents in violation of the dispositions of Article 123(2) EPC.

More specifically, neither the step of training an automatic speech recognition model (ASR) from transcriptions of utterances within collected data nor the step of training a spoken language understanding model (SLU) from call-type labels assigned to utterances within the collected data is presented in the original disclosure as part of a method of building a library. The paragraphs [0014], [0015] and [0026], referred to by the appellant, merely establish that spoken language understanding models and speech recognition models may define reusable components of the library. The reference in further paragraph [0027] to a training of ASR module 102 and to the process of building the new spoken language understanding model does not disclose any specific link between said processes and the method of building a library.

A further confirmation for the fact that the two training steps evoked above are not directly associated with the method of building the library derives from the fact that these two training steps actually belong to the method of building a natural spoken dialog system and should therefore follow the elaboration of the library required for this purpose.

- 5.3 The second auxiliary request is thus not allowable since it refers to subject-matter which was not originally disclosed (Article 123(2) EPC).

6. *Third auxiliary request*

6.1 The third auxiliary request was filed in the course of the appeal proceedings, following the provisional opinion issued by the Board in its communication of 29 March 2012 with regard to the previously pending main and auxiliary requests. As already underlined above (section 3), the Board has a discretion to admit such a request under Article 13(1) RPBA taking into account *inter alia* the complexity of the new subject matter submitted, the current state of the proceedings and the need for procedural economy. As indicated above, a criterion commonly applied by the boards of appeals when exercising their discretionary power consists in determining whether the new requests overcome outstanding objections under the EPC and do not give rise to new objections.

6.2 Reference is made in both independent claims 1 and 10 of the third auxiliary requests to "one or more call-types" which "are so arranged to belong to one or more of the multiple industrial sectors for use in building a new natural language spoken dialog system in an industrial sector", without however specifying whether the industrial sectors correspond to the particular industrial sectors for which datasets are stored. It follows that claims 1 and 10 actually generalize the teaching of the original disclosure according to which the collected data are for use in building a new natural language spoken dialog system in one, or possibly, more particular industrial sectors whose data have effectively been collected (cf. points 3.2 and 3.3 above). In other words, the wording of independent claims 1 and 10 still encompasses the situation where

the new spoken dialog system is elaborated on the basis of data obtained from different industrial sectors.

As put forward under section 3, the passages referred to by the appellant are insufficient, in this respect, to support the generalization resulting from the present wording. It is again stressed that none of these passages directly and unambiguously establish that a new spoken dialog system could be built from data pertaining to different industrial sectors so that the objection raised by the Board in its previous communication with regard to the main request then pending still applies.

6.3 The third auxiliary request is therefore not admitted in the appeal proceedings (Article 13(1) RPBA).

7. *Fourth auxiliary request*

7.1 As for the third auxiliary request, the fourth auxiliary request was filed in the course of the appeal proceedings, following the provisional opinion issued by the Board with regard to the previously pending requests. Under Article 13(1) RPBA, such a request can only be admitted at the discretion of the Board. The criteria according to which the discretion shall be exercised have been exposed in sections 3 and 6.

7.2 Claim 1 of the fourth auxiliary request defines a method of building a library of components suitable for reuse in building a natural spoken dialog system. It includes the step of training an automatic speech recognition model from transcriptions of utterances within the collected data. As underlined above under

section 5 with regard to the second auxiliary request, no basis can be found in the original application documents for a method of building a library which would incorporate as a part of the elaboration process a step of training an automatic speech recognition model.

For these reasons, the objection of added subject-matter raised above with regard to the second auxiliary request also applies to the subject-matter of claim 1 of the fourth auxiliary request.

7.3 The fourth auxiliary request is therefore not admitted in the appeal proceedings pursuant to Article 13(1) RPBA.

8. *Fifth and sixth auxiliary requests*

8.1 The fifth and sixth auxiliary requests were presented during the oral proceedings before the Board following the debate regarding the admissibility or allowability of the previous requests on file. Such requests may be admitted at the discretion of the Board according to the criteria set out in Articles 13(1) and (3) RPBA and described in sections 3 and 6 above.

8.2 As underlined above under section 3 with regard to claim 1 of the main request, the step of "*storing a dataset in a database*" in claim 1 of the fifth auxiliary request does not specify whether this dataset pertains to any particular industrial sector. A second step of "*storing a plurality of datasets in the database, wherein each of the datasets further comprises a plurality of the reusable components*

pertaining to a different industrial sector" follows the evocation of this first step of storing a dataset. It is introduced by the conjunction "and", thus suggesting that it constitutes an additional step of the claimed method complementing the first evoked step.

However, as observed above (section 3), neither original claims 9 and 10, nor Figure 3 and the corresponding passages of the original description do provide a basis for a method in which a dataset, whose components do not belong to any particular industrial sector, is stored in a database together with datasets pertaining to different industrial sectors. Considering therefore that the objection of fresh subject-matter raised above with regard to the main request is not solved by the claims according to the fifth auxiliary request, the Board decides not to admit the fifth auxiliary request in the appeal proceedings according to Article 13(1) RPBA.

- 8.3 With regard to claim 1 of the sixth auxiliary request, the step of *"generating a sector database from a plurality of individual data collection databases"* in claim 1 of the fourth auxiliary request has been amended and reads *"generating a sector database (302) from the plurality of individual data collection databases, wherein each of the plurality of individual data collection databases pertains to a different industrial sector"*. However, Figure 3 and paragraph [0026] of the original disclosure, which were explicitly referred to by the appellant in support of the amendments carried out, disclose a sector database in which the plurality of individual data collection databases (304-1, 304-2,...) from a plurality of

individual data collection databases actually belong to the same industrial sector in contradiction with the wording of claim 1 of the sixth auxiliary request. The Board is also unable to identify any basis in the original application for the amended feature.

The amendments which have been introduced in claim 1 of the sixth auxiliary request with regard to claim 1 of the fourth auxiliary request give rise to a new objection of added subject-matter (Article 123(2) EPC). The sixth auxiliary request is therefore not admitted in the appeal proceedings (Article 13(1) RPBA).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

R. Schumacher

G. Assi