**Title:** A METHOD USING CONTEXTUAL ANALYSIS, SEMANTIC ANALYSIS AND ARTIFICIAL INTELLIGENCE IN TEXT SEARCH ENGINES

**Abstract:** The invention relates to a method and system to obtain better search engine results using Contextual Analysis, Semantic Analysis and Artificial Intelligence. This software uses Algorithmic Contextual Analysis, Semantic Analysis, and Artificial Intelligence, jargon awareness, and rich dictionaries to render accurate search matching results even with unexpected combinations of words and thoughts. The method uses connotation indexing, is independent of user and text language, and renders better targeting of advertising to specific content. The method identifies the language of words within text before associating them to the correct connotation.
A METHOD USING CONTEXTUAL ANALYSIS, SEMANTIC ANALYSIS AND ARTIFICIAL INTELLIGENCE IN TEXT SEARCH ENGINES

FIELD OF THE INVENTION

[001] The embodiments of the invention generally relate to a system and method to use Contextual Analysis, and Semantic Analysis with Artificial Intelligence to obtain more relevant matching and results with a more pertinent ranking report.

BACKGROUND

[002] Internet search engines are intensively used by individuals and corporations. Our method has been developed to address the growing demand and to expand the usage across language barriers to a global scale.

Many techniques are used by search engines. Several corporations are offering such tools. Ranking techniques are primarily based on user’s contribution either by how an internet site is referenced by others, or by how many visitors visited the sites.

Our method using Algorithmic Contextual Analysis, Semantic Analysis, and Artificial Intelligence, jargon awareness, and rich dictionaries renders accurate results even with unexpected combinations of words and thoughts. Using language-aware algorithms our method classifies words into language-independent connotation concepts and improves the search by matching connotations without reference to a language. Therefore it supports searching across language barriers.

INVENTION SUMMARY

The invention relates to a method and system to obtain better search engine results using Contextual Analysis, Semantic Analysis and Artificial Intelligence. This software uses Algorithmic Contextual Analysis, Semantic Analysis, and Artificial Intelligence, jargon awareness, and rich dictionaries to render accurate search matching results even with unexpected combinations of words and thoughts. The method uses connotation indexing, is independent of user and text language, and renders better targeting of advertising to specific content. The method identifies the language of words within text before associating them to the correct connotation.
BRIEF DESCRIPTION OF THE DRAWINGS

[003] FIG 1 shows an example of basic Database structure connotation indexing French table.

[004] FIG 2 shows an example of an English Database structure and linkage with connotation indexing.

[005] FIG 3 shows the use of Artificial Intelligence to obtain an accurate connotation index and meaning.

[006] FIG 4 shows the use of Semantic Analysis to classify the French word “glace” (that can have multiple meanings) by examining nearby text, to obtain an accurate connotation index and meaning.

[007] FIG 5 shows the use of Contextual Analysis to classify the French word “volez” (that can have multiple meanings) by examining nearby text, to obtain an accurate connotation index and meaning.

[008] FIG 6 shows the use of Contextual, Semantic Analysis and Artificial Intelligence with synonyms to obtain the accurate connotation index and meaning.

[009] FIG 7 shows an example of how the linguistic algorithm process is used to obtain connotation data and to append it to a connotation data base.

[010] FIG 8 shows an example of how a search query yields connotation data, and how the algorithm will find text matching the search within a connotation database.

[011] FIG 9 shows an example of how to obtain a search result report from a French query.

[012] FIG 10 shows how connotation data from a search query is used to match connotations within a database to create a ranked report using a search regression algorithm.

[013] FIG 11 shows how unidentified and misspelled words are processed.
DETAILED DESCRIPTION

[013] In the following detailed description of the embodiments of the invention, abundant fine points are set forth in order to provide a meticulous understanding of the embodiment of the invention. The details are limited to the well known state of the art so as not to obscure many aspects of the embodiments of the invention.

[014] The invention relates to a method and system to obtain better search engine results using Contextual Analysis, Semantic Analysis and Artificial Intelligence. This software uses Algorithmic Contextual Analysis, Semantic Analysis, and Artificial Intelligence, jargon awareness, and rich dictionaries to render accurate search matching results even with unexpected combinations of words and thoughts.

[015] The invention is independent of language since it is using connotation indexing.

[016] The method identifies each word’s language within text and multiple languages are considered during text scanning to obtain the proper word connotation.

[017] The method interprets misspelled words before association to a correct connotation field.

[018] FIG 1 shows the structure of a Database connotation indexing Table in French 100 illustrating how one embodiment of the invention is implemented. These tables create lightweight and efficient Contextual and Semantic Analysis databases. All entries described in Fig. 1 are sorted and indexed 101. These entries are stored for each basic entry under a data system from aaa 102, aab 103, aac 104 to zzy 106 and zzz 107 for each language. A specific example the 110 is shown for French words. An entry “chemin” 413 is shown with its table index 111 and its connotation index 112; for “chenil” 116 the respective table index 114 and the connotation index 115 are shown; similarly for “chercher” 119 the table index is shown 117 and connotation index 118. The invention is not limited to this example; those skilled in the state of the art will recognize that the invention is applicable for irregular verbs, adjectives and other specific grammatical or linguistic information.

[019] FIG. 2 shows an English connotation database table 200 with some potential classifications. A table index is shown 201. Some main connotation fields are identified: Technical 210 and its corresponding connotation index 211 with some sub-fields, Electrical 212 index 213, Mechanical 214 index 215; Telecommunication 216 index 217; Scientific 220 corresponding main connotation index 221 and several sub-fields, Physics 221 index 223, Mathematics 224 index 225, Medical 226 index 227; and so on 290-299. The invention is not limited to this English example; those skilled in the state of the art will recognize that the invention is applicable to many and other different connotations with more elaborate classifications involving more than two levels. Also those skilled in the state of the art will recognize that the invention is not limited to the English example but is applicable to any words, languages, and regional dialects.
FIG 3 shows a diagram of an Analysis using Artificial Intelligence. A sentence 300 is analyzed by the Artificial Intelligence module 301 into subsets 302. In the French sentence “les deux jolis chats blancs courent vite”; “les deux” 310 is found to be a combination of a definite article “les” 311 and a numeral adjective “deux” 312 to form the sentence determinant. The next subset “courent vite” 320 forms a verbal group with “courent” a verb 321 and “vite” adverb 322. The last sentence subset “jolis chats blancs” 330 is a combination of “jolis” 332 a qualitative adjective, “chats” a plural noun 324; and again a qualitative adjective “blancs” 333. In this example “chats” 334 is recognized in the connotation database 351 and index from this connotation database respectively as an animal 352 with its connotation index 353. Those skilled in the state of the art will recognize that the invention is not limited to the French noun example but is applicable to any words, languages, and regional dialects.

FIG 4 shows a diagram for how words with multiple meanings 400 are classified using Semantic Analysis 401. To show how the French and English linguistic algorithms give accurate connotations, a sample translation is provided from French to English.

If French word “glace” 402, a noun, is associated with “to be eaten” 410, it will be translated as “ice cream” 411. “L’enfant mange la glace” 420 is in that context would be properly translated to “the child eats the ice cream” 430. The contextual analysis has found “glace” to be associated with “mange” and has correctly given the right contextual connotation, “Food” 417. The analysis is incorporated in the connotation database 415 with connotation index 416 and connotation meaning 417.

If French word “glace” 402 is associated with “to look at” 440, it will be translated to “mirror” 441. “Je me regarde dans la glace” 450 is in that context properly translated to “I look at myself in the mirror” 460. The semantic analysis has found “glace” to be associated with “regarde” and has correctly given the right contextual connotation from the connotation database.

If French word “glace” 402 is associated with “water” 470, it will be translated as “ice” 471. “La glace est de l’eau gelée” 480 is in that context properly translated to “ice is frozen water” 490. The contextual analysis has found “glace” 402 to be associated with “water” and has correctly given the right contextual connotation from the connotation database.

The invention is not limited to the above example or language. Those skilled in the state of the art will recognize that the invention is applicable to many languages, combinations, or variations that exist or will exist. Also it is not limited to analysis of a single sentence but could be extended to include nearby text.

FIG 5 shows a diagram for how words with multiple meanings 500 are classified using Contextual Analysis 501.

French word “vole” 502, if interpreted as a “legal concept” 510, will be translated as “to steal” 511. “L’homme vole l’orange” 530 is in that context understood with the proper connotation as “the man steals the orange” 520. The contextual analysis has found “vole” 502 to be associated with “orange” which is not a flying object and has given the proper meaning 517 from the connotation database 515 with connotation index 516.

“Vole” 502 in French, if interpreted as an “aeronautic concept” 540 will be translated as “to fly” 511. “Le pilote vole en Boeing” 560 is properly understood in the context as “the pilot flies in a Boeing” 550. The contextual connotation analysis has found both a pilot and Boeing which is an airplane manufacturer and has given the proper connotation.

The invention is not limited to the above example or language. Those skilled in the state of the art will recognize that the invention is applicable to many languages, combinations, or variations that exist or will exist. Also it is not limited to analysis of a single sentence but could be extended to include nearby text.
FIG 6 shows a diagram in which the embodiment of the invention may be implemented using synonym association with Semantic Analysis and Contextual Analysis. In French for “glace” to be a “sorbet” 600 a Semantic Contextual analysis 601 will compile and look for synonyms in the context of “manger” 602. When a synonym or context meaning is identified the Semantic, Contextual Analysis 603 will refer to the connotation database 605 to identify a connotation index 606 and meaning as a food or “nourriture” 607. Then the proper meaning will render a proper translation 615 of “glace” to “ice cream” in English 620. This analysis within the connotation database 605 is shown for French “l’enfant a une glace au diner” 610 to be translated in English as “the child has an ice cream for dinner” 621. In this example the contextual connotation connection was “diner” as found in synonym list 602.

It is also shown that a misspelled word “diner” was correlated to “dîner”, which is properly spelled with the accented French character “î”.

FIG 7 is a block diagram illustrating how one embodiment of the invention is implemented. From an original text to be analyzed 700 the languages are identified 701. After the language identification the proper contextual analysis, semantic analysis and artificial intelligence algorithm 702 will analyze the text. The result 703 will be reported in the Text Connotation Data 704 with a Text Index 705. In this example four connotation fields 706 are indicated. Respectively for each field a word count is tabulated 707 and a ratio is calculated 706. It is to be noted that only words which have connotations are considered in the calculations. This connotation analysis will be appended 709 to the general connotation database 710 with field 711 as a primarily index. Under that key index 711 respectively connotation field 712 and ratio 713 are stored.

The invention is not limited to the above example or language. Those skilled in the state of the art will recognize that the invention is applicable to many languages, combinations, or variations that exist or will exist. Also it is not limited to analysis of a single sentence but could be extended to include nearby text.

FIG. 8 is a block diagram illustrating how one embodiment of the invention is implemented. From a search or query text 800 the language is identified 801. After the language identification the proper contextual analysis, semantic analysis and artificial intelligence algorithm process 802 will analyze the Query Text. The result 803 will be reported in a query connotation 804 with a connotation index 805. Respectively for each field a word count is tabulated 807 and a ratio is calculated 808. It is to be noted that only words which have a connotation are considered in the calculations. From this connotation analysis a search 809 within the general database 810 will be performed. The result from that search, based on connotation fields 812 and respective ratios 813, will be the Report Search Result 820 associated to connotation index 811.

The invention is not limited to the above example or language. Those skilled in the state of the art will recognize that the invention is applicable to many languages, combinations, or variations that exist or will exist. Also it is not limited to analysis of a single sentence but could be extended to include nearby text.

FIG. 9 is a block diagram illustrating how one embodiment of the invention is implemented. A specific query in French “acheter gâteau chocolat” 900 is used for demonstration purposes. Query language is identified 901 to select the correct connotation linguistic algorithm 902. Several connotations 910 are identified, first “acheter = commerce vente” 911, then: “gâteau = gastronomie cuisine” 912 and “chocolat = gastronomie” 913. With this connotation classification a search is performed 920 with the following corresponding connotation “magazine, boutique, vente, acheter” 930 plus 931 to “gâteau, patisserie, éclair au chocolat” within the general database. A search report is generated 940 including ranking 941 and result 942.

Those skilled in the state of the art will recognize that the invention is not limited to the above French example but it is possible to use across language barriers; a query could be generated in one language while the report could be generated in another language.
FIG. 10 shows a diagram in which one embodiment of the invention may be implemented. In this case, a data mining example, the connotation search is shown using an iterative algorithm. A search query 1000 with two connotation fields “a” 1001 and “b” 1002 with their respective connotation ratio “x” 1003 and “y” 1004 is shown for the presentation. A search algorithm is selected 1005 and then used 1060 to generate search report 1030. A search algorithm will be a function of connotation “a” associated to connotation ratio “x” and connotation “b” associated to connotation ratio “y”. To obtain significant search results, from connotation ratios “x” and “y” upper and lower limits have to be computed using increments “delta(x)” 1061 and “delta(y)” 1062 to be used by the search algorithm.

A first search is performed on the general database 1007 matching the connotation indexes “a” 1008 and “b” 1009 with their respective ratios “x” 1010 and “y” 1011. The results of this first search are obtained in list 1012 and the results are placed in the Search Report 1030. The number of expected results is considered 1013 and if their quantity matches or exceeds an expected number the search is terminated.

If a lower than expected number of results is returned 1013 a new iteration will be started 1014 by adjusting the upper and lower limit of ratios “x” by “n”delta(x)” 1071, 1073 and “y” by “n”delta(y)” 1072, 1074. A new search is performed and additional search data is obtained 1020. The new results are appended to the Search Report 1030. Iteration occurs again if there are still not enough search results 1021.

At search termination the Search Report 1030 contains a ranking of search results starting with the closest match.

This search query incorporates parametric function “g” 1063 to embody regionalization, events, etc. that can be used to fine tune ranking results.

The invention is not limited to any particular search algorithms. Those skilled in the state of the art will recognize that they could use any modeling, and that many parameters might be added so as to render different data filtering and ranking.

FIG. 11 shows a diagram in which an embodiment of the invention may be implemented. In this example a text or query are considered 1100. The languages are first identified 1101, it is to be noted that several languages will be considered during the linguistic analytic process 1102. Words with existing connotation 1103 will be entered in Query Text Connotation information 1106 with corresponding Field Connotation index 1107. On words without identified connotation 1104 an analysis is performed 1108. Corrected misspelled words will be properly re-entered 1109 to the linguistic analytical process 1102. Unknown words will be added 1111 to the database management log 1112 with the text for further investigation.

Those skilled in the state of the art will recognize than the process order between words analysis, misspelled words, corrected words and unknown words might be and integral part of the linguistic process and the screening step and conducted in a different order.

The method is not limited to simply finding defined search query results in a database. For example, a first query result report could be used to initiate a secondary search.

Those skilled in the state of the art will recognize that the method described in this invention extends to automatic operations without user interaction, e.g. for an ad engine to distribute targeted advertising.

The method described is not limited to the automatic selection of connotation fields but those skilled in the state of the art will recognize that a user might modify the field and or select his or her own connotation field.
CLAIMS

What is claimed is:

1. A method to obtain better search results and ranking with search engines by using contextual analysis, semantic analysis, and artificial intelligence.

2. A method to obtain better search results and ranking with search engines by using artificial intelligence to eliminate grammatical ambiguities.

3. A method to obtain better search results and ranking with search engines by using semantic analysis of surrounding words during text analysis.

4. A method to obtain better search results and ranking with search engines by using synonyms with the semantic analysis and contextual analysis to extend the search scope.

5. A method to obtain better search results and ranking with search engines by using connotation indexing.

6. A method to obtain better search results and ranking with search engines by matching search query connotation indexing to database connotation indexing.

7. A method to obtain better search results and ranking independent of text languages using connotation.

8. A method to identify multiple languages within a text before determining connotations independently of the languages.


10. A method to understand misspelled words before association to a proper word connotation field.

11. A method to be used with an iterative search engine algorithm.

12. A method to adapt a query to a region and/or events to render better results and ranking.

13. A method to filter results and ranking.

14. A method to obtain better search results and ranking with search engines by allowing connotation field selection.

15. A method to better distribute advertising matching the targeted text using connotation indexing.

16. A method to better distribute targeted advertising using word connotation from the search engines request.

17. A method to better distribute targeted advertising using synonyms of words from the search engines request.

18. A method to better distribute targeted advertising by using word connotations associated with words from the search engines request.
AMENDED CLAIMS
(received by the International Bureau on 21 December 2009 (21.12.09))

CLAIMS:

What is claimed is:

1) A method to obtain better search results and/or better ranking of the results with search engines or to better distribute targeted advertising by using contextual analysis, semantic analysis, and artificial intelligence to eliminate ambiguities on words.

2) A method to obtain better search results and/or better ranking of the results with search engines or to better distribute targeted advertising by using artificial intelligence to eliminate grammatical ambiguities.

3) A method to obtain better search results and/or better ranking of the results with search engines or to better distribute targeted advertising by using surrounding words in the semantic analysis during text analysis to eliminate semantic ambiguities.

4) A method to obtain better search results and/or better ranking of the results with search engines or to better distribute targeted advertising by using synonyms of surrounding words in the semantic analysis and contextual analysis to extend the search scope of surrounding words to eliminate semantic ambiguities.

5) A method to obtain better search results and/or better ranking of the results with search engines or to better distribute targeted advertising by using connotation indexing to eliminate semantic ambiguities.

6) A method to obtain better search results and/or better ranking of the results with search engines or to better distribute targeted advertising by matching search query connotation indexing to database connotation indexing.

7) A method to obtain better search results and/or better ranking of the results with search engines or to better distribute targeted advertising independent of text languages using connotations.

8) A method to obtain better search results and/or better ranking of the results with search engines or to better distribute targeted advertising by identifying multiple languages within a text before determining connotations independently of the languages.

9) A method to obtain better search results and/or better ranking of the results with search engines or to better distribute targeted advertising by rendering text matching independent of language.

10) A method to obtain better search results and/or better ranking of the results with search engines or to better distribute targeted advertising by understanding misspelled words before association to a proper word connotation field.
11) A method to obtain better search results and/or better ranking of the results with search engines or to better distribute targeted advertising by using an iterative search engine algorithm.

12) A method to obtain better search results and/or better ranking of the results with search engines or to better distribute targeted advertising by adapting a query to a region and/or events to render better results and better ranking.

13) A method to obtain better search results and/or better ranking of the results with search engines or to better distribute targeted advertising by filtering results and ranking.

14) A method to obtain better search results and/or better ranking of the results with search engines or to better distribute targeted advertising by allowing connotation field selection when analyzing the search engines request or when analyzing texts.

15) A method to better distribute advertising matching the targeted text using connotation indexing.

16) A method to better distribute targeted advertising using words’ connotation from the search engines request or from texts analysed.

17) A method to better distribute targeted advertising using synonyms of words from the search engines request or from texts analysed.

18) A method to better distribute targeted advertising by using words’ connotations associated with words from the search engines request or from texts analysed.
FIG. 1
FIG. 3
Words with multiple meanings

Semantic Analysis

\[
\text{glace}
\]

\[
\begin{align*}
\text{To be eaten} & \Rightarrow \text{ice cream} \\
\text{L'enfant mange la glace} & \Rightarrow \text{the child eats the ice cream} \\
\text{Je me regarde dans la glace} & \Rightarrow \text{I look at myself in the mirror} \\
\text{La glace est de l'eau gelée} & \Rightarrow \text{Ice is frozen water}
\end{align*}
\]

Connotation database

Connotation Index

Food

Furniture

FIG. 4
FIG. 5
FIG. 6

= The child has an ice cream for dinner
Search or Query Text

Identify Languages

Linguistic Analytic Algorithm Process

Search Connotation Data

Search Index

xi yi si zi
Number (xi) Number (yi) Number (si) Number (zi)
Ratio (xi) Ratio (yi) Ratio (si) Ratio (zi)

Connotation Database

Text Indexes

xi yi si zi
Ratio (xi) Ratio (yi) Ratio (si) Ratio (zi)

Report Search Result

FIG. 8
Search \ Query
Acheter gâteau chocolat

Identify Languages

Connotation
Linguistic Analytic Algorithm Process

Connotation
Acheter = Commerce Vente
Gâteau = Gastronomie Cuisine
Chocolat = Gastronomie

Analyze Database
Magasin
Boutique
Vente
Acheter

Gâteau
Pâtisserie
Éclair au chocolat

Search Report
First
Commerce - Vente
+ Gastronomie - Cuisine

FIG. 9
FIG. 10
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
   IPC(8) - G06F 17/30 (2009.01)
   USPC - 707/2
   According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
   Minimum documentation searched (classification system followed by classification symbols)
   IPC(8): G06F 17/30 (2009.01)
   USPC: 707/2

   Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
   IPC(8): G06F 17/30 (2009.01) (Keyword limited - see search terms below)
   USPC: 707/1, 2; 708/20 (Keyword limited - see search terms below)

   Electronic database consulted during the international search (name of database and, where practicable, search terms used)
   PubWEST (PGPB, USPT, EPAB, JPAB); Google Scholar
   Search Terms Used: search engine semantic artificial intelligence rank advertisement connotation ambiguity expand scope synonym target

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>US 2005/0108200 A1 (MEIK et al.), 19 May 2005 (19.05.2005), entire document, especially para [0025], [0037], [0093], [0165], [0179], [0219], [0237], [0243], [0253], [0264],[0265], [0272]</td>
<td>1-6 and 14-18</td>
</tr>
<tr>
<td>A</td>
<td>US 2008/0133508 A1 (JIANG et al.), 05 June 2008 (05.06.2008), entire document</td>
<td>1-6 and 14-18</td>
</tr>
</tbody>
</table>

* Special categories of cited documents:
   "A" document defining the general state of the art which is not considered to be of particular relevance
   "E" earlier application or patent but published on or after the international filing date
   "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason
   "O" document referring to an oral disclosure, use, exhibition or other means
   "P" document published prior to the international filing date but later than the priority date claimed
   "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
   "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
   "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
   "&" document member of the same patent family

Date of the actual completion of the international search
14 September 2009 (14.09.2009)

Date of mailing of the international search report
24 SEP 2009

Name and mailing address of the ISA/US
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Authorized officer: Lee W. Young
PCT Helpdesk: 571-272-4300
PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)
### INTERNATIONAL SEARCH REPORT

**Box No. II**  Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.: 7-13 because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically. Claims 7-13 fail to set forth any affirmative method steps upon which a search may be conducted and thus are unsearchable.

3. ☐ Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box No. III  Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

**Remark on Protest**

☐ The additional search fees were accompanied by the applicant’s protest and, where applicable, the payment of a protest fee.

☐ The additional search fees were accompanied by the applicant’s protest but the applicable protest fee was not paid within the time limit specified in the invitation.

☐ No protest accompanied the payment of additional search fees.

Form PCT/ISA/210 (continuation of first sheet (2)) (July 2009)