

METHOD, APPARATUS, ELECTRONIC DEVICE, AND STORAGE MEDIUM FOR INTELLIGENTLY PRESENTING DOCUMENT

RELATED APPLICATIONS

[0001] This application claims priorities to the Chinese patent application No. CN202410253220.9, filed on March 6, 2024, and entitled “METHOD, APPARATUS, ELECTRONIC DEVICE, AND STORAGE MEDIUM FOR INTELLIGENTLY PRESENTING DOCUMENT” and the Chinese patent application No. CN202410555382.8, filed on May 7, 2024, and entitled “METHOD, APPARATUS, ELECTRONIC DEVICE, AND STORAGE MEDIUM FOR INTELLIGENTLY PRESENTING DOCUMENT”, the entire contents of which are hereby incorporated by reference.

TECHNICAL FIELD

[0002] The present disclosure relates to the field of computer technology, and in particular, to a method, an apparatus, an electronic device, and a storage medium for intelligently presenting a document.

BACKGROUND

[0003] Patent search is required throughout the entire lifecycle of a patent. For example, before filing a patent, an applicant needs to conduct patent novelty searching. During an examination stage, an examiner needs to determine whether the patent application can be granted through a search result. During an invalidation stage, a petitioner needs to obtain invalidation evidence through the patent search.

[0004] During the patent search, it is necessary to conduct statistics and analysis on the searched patent documents, which generally takes a lot of time to read and understand the patent documents, thereby resulting in low search efficiency of a user.

SUMMARY

[0005] In view of this, embodiments of the present disclosure provide a method, an apparatus, an electronic device, and a storage medium for intelligently presenting a

document.

[0006] According to a first aspect of the embodiments of the present disclosure, a method for intelligently presenting a document is proposed. The method includes:

[0007] displaying a first document and a second window for human-computer interaction in the first window;

[0008] determining a first semantic meaning of first input information input by a user in the second window, where the first input information is used to indicate analysis for the first document;

[0009] analyzing the first document based on the first semantic meaning to obtain a full-text analysis result; and

[0010] displaying the full-text analysis result.

[0011] In some embodiments, the method further includes:

[0012] displaying at least one position information in at least one of the first window and the second window, where the position information is used to indicate a position of document content associated with the full-text analysis result document in the first document.

[0013] In some embodiments, the method further includes:

[0014] in response to displaying the at least one position information, associating the first document with the position indicated by the at least one position information in the first window.

[0015] In some embodiments, the position information is used for selection to associate the position indicated by the position information with the first document in the first window.

[0016] In some embodiments, the step of analyzing the first document based on the first semantic meaning to obtain a full-text analysis result includes:

[0017] analyzing the first document based on a target content categorization indicated by the first semantic meaning to obtain at least one full-text analysis result associated with the target content categorization;

[0018] the step of displaying the full-text analysis result includes:

[0019] categorizing and displaying each of the at least one full-text analysis result based on at least one sub-categorization attribute contained in the target content categorization.

[0020] In some embodiments, the sub-categorization attribute contained in the target content categorization is preset; and/or

[0021] the sub-categorization attribute contained in the target content categorization is configured based on the full-text analysis result.

[0022] In some embodiments, the method further includes:

[0023] determining N candidate documents meeting search criteria, and displaying association information respectively corresponding to the N candidate documents in a third window;

[0024] displaying a fourth window for human-computer interaction in the third window;

[0025] determining a second semantic meaning of second input information input by the user in the fourth window, where the second input information is used to indicate statistical analysis of the candidate documents;

[0026] analyzing the N candidate documents based on the second semantic meaning to obtain a statistical analysis result; and

[0027] displaying the statistical analysis result.

[0028] In some embodiments, the step of analyzing the first document based on the second semantic meaning to obtain a full-text analysis result includes:

[0029] analyzing the N candidate documents based on a first statistical analysis parameter indicated by the second semantic meaning to obtain statistical counts of candidate documents respectively corresponding to I first sub-analysis parameters associated with the first statistical analysis parameter, and

[0030] the step of displaying the statistical analysis result includes:

[0031] displaying the statistical counts respectively corresponding to the I first sub-analysis parameters.

[0032] In some embodiments, the step of displaying the statistical counts respectively corresponding to the I first sub-analysis parameters includes:

[0033] categorizing and displaying the statistical counts based on a first categorization parameter.

[0034] In some embodiments, the statistical counts are used for selection to display association information respectively corresponding to the candidate documents corresponding to a selected statistical count in a fifth window.

[0035] In some embodiments, the step of displaying the statistical counts respectively corresponding to the I first sub-analysis parameters includes:

[0036] displaying the statistical counts respectively corresponding to the I first sub-analysis parameters in a first form;

[0037] using the statistical counts displayed in the first form for selection to display the statistical counts respectively corresponding to the I first sub-analysis parameters in a second form, where display area in the second form is larger than display area in the first form; and

[0038] using the statistical counts displayed in the second form for selection to display association information of the candidate documents corresponding to a selected statistical count displayed in the second form in the fifth window.

[0039] In some embodiments, the association information respectively corresponding to the N candidate documents displayed in the third window is used for selection to display a candidate document corresponding to the selected association information in the first window.

[0040] In some embodiments, the step of analyzing the first document based on the first semantic meaning to obtain a full-text analysis result includes:

[0041] analyzing a selected part of the first document based on the first semantic meaning to obtain a full-text analysis result corresponding to the selected part of the first document.

[0042] According to a second aspect of the embodiments of the present disclosure, an apparatus for intelligently presenting a document is proposed, where the apparatus includes a processing module configured to:

[0043] display a first document and a second window for human-computer interaction in a first window;

[0044] determine a first semantic meaning of first input information input by a user in the second window, where the first input information is used to indicate analysis for the first document;

[0045] analyze the first document based on the first semantic meaning to obtain a full-text analysis result; and

[0046] display the full-text analysis result.

[0047] In some embodiments, the processing module is further configured to:

[0048] display at least one position information in at least one of the first window and the second window, where the position information is used to indicate a position of document content associated with the full-text analysis result in the first document.

[0049] In some embodiments, the processing module is further configured to:

[0050] in response to displaying the at least one position information, associate the first document with the position indicated by the at least one position information in the first window.

[0051] In some embodiments, the position information is used for selection to associate the position indicated by the position information with the first document in the first window.

[0052] In some embodiments, the processing module is specifically further configured to:

[0053] analyze the first document based on a target content categorization indicated by the first semantic meaning to obtain at least one full-text analysis result associated with the target content categorization;

[0054] categorize and display each of the at least one full-text analysis result based on at least one sub-categorization attribute contained in the target content categorization.

[0055] In some embodiments, the sub-categorization attribute contained in the target content categorization is preset; and/or

[0056] the sub-categorization attribute contained in the target content categorization is configured based on the full-text analysis result.

[0057] In some embodiments, the processing module is further configured to:

[0058] determine N candidate documents meeting search criteria and display association information respectively corresponding to the N candidate documents in a third window;

[0059] display a fourth window for human-computer interaction in the third window;

[0060] determine a second semantic meaning of second input information input by the user in the fourth window, where the second input information is used to indicate statistical analysis of the candidate documents;

[0061] analyze the N candidate documents based on the second semantic meaning to obtain a statistical analysis result; and

[0062] display the statistical analysis result.

[0063] In some embodiments, the processing module is specifically configured to:

[0064] analyze the N candidate documents based on a first statistical analysis parameter indicated by the second semantic meaning to obtain statistical counts of candidate documents respectively corresponding to I first sub-analysis parameters associated with the first statistical analysis parameter.

[0065] display the statistical counts corresponding to the I first sub-analysis parameters respectively.

[0066] In some embodiments, the processing module is specifically configured to:

[0067] categorize and display the statistical counts based on a first categorization parameter.

[0068] In some embodiments, the statistical counts are used for selection to display association information corresponding to the candidate documents corresponding to a selected statistical count in a fifth window.

[0069] In some embodiments, the processing module is specifically configured to:

[0070] display the statistical counts respectively corresponding to the I first sub-analysis parameters in a first form;

[0071] use the statistical counts displayed in the first form for selection to display the statistical counts respectively corresponding to the I first sub-analysis parameters in a second form, where display area in the second form is larger than display area in the first form; and

[0072] use the statistical counts displayed in the second form for selection to display association information of the candidate documents corresponding to a selected statistical count displayed in the second form in the fifth window.

[0073] In some embodiments, the association information respectively corresponding to the N candidate documents displayed in the third window is used for selection to display a candidate document corresponding to the selected association information in the first window.

[0074] In some embodiments, the processing module is specifically configured to:

[0075] analyze a selected part of the first document based on the first semantic meaning to obtain a full-text analysis result corresponding to the selected part of the first document.

[0076] According to a third aspect of the embodiments of the present disclosure, an electronic device is proposed, and the electronic device includes:

[0077] one or more processors,

[0078] where the processor is configured to invoke instructions to cause the electronic device to execute the method for intelligently presenting the document described in the first aspect.

[0079] According to a fourth aspect of the embodiments of the present disclosure, a storage medium is proposed. The storage medium stores instructions that, when the instructions are run on an electronic device, cause the electronic device to execute the method for intelligently presenting the document described in the first aspect.

[0080] According to the embodiments of the present disclosure, the method includes: displaying the first document and a second window for human-computer interaction in the first window; determining a first semantic meaning of first input information input by a user in the second window, where the first input information is used to indicate analysis for the first document; analyzing the first document based on the first semantic meaning to obtain a full-text analysis result; and displaying the full-text analysis result. Thus, in the first window displaying the first document, document interaction can be realized through the second window in the first window displaying the first document, and thus the analysis of the first document of a patent is realized through a language model. On one hand, the user can directly realize the interaction in the first window, thereby improving convenience. On the other hand, since the language model analyzes documents using a machine, the speed is fast, thereby reducing the manual reading and analysis time and improving the efficiency of analyzing the first document.

BRIEF DESCRIPTION OF DRAWINGS

[0081] FIG. 1 is a schematic flowchart illustrating a method for intelligently presenting a document according to an exemplary embodiment;

[0082] FIG. 2 is a schematic diagram illustrating an intelligent presenting window according to an exemplary embodiment;

[0083] FIG. 3 is a schematic flowchart illustrating a method for intelligently presenting a document according to an exemplary embodiment;

[0084] FIG. 4 is a schematic diagram illustrating an intelligent presenting window according to an exemplary embodiment;

[0085] FIG. 5 is a schematic flowchart illustrating a method for intelligently presenting a document according to an exemplary embodiment;

[0086] FIG. 6 is a schematic diagram illustrating an intelligent presenting window according to an exemplary embodiment;

[0087] FIG. 7 is a schematic diagram illustrating an intelligent presenting window according to an exemplary embodiment;

[0088] FIG. 8 is a schematic diagram illustrating an intelligent presenting window according to an exemplary embodiment;

[0089] FIG. 9 is a schematic flowchart illustrating a method for intelligently presenting a document according to an exemplary embodiment;

[0090] FIG. 10 is a schematic diagram illustrating an intelligent presenting window according to an exemplary embodiment;

[0091] FIG. 11 is a schematic diagram illustrating an intelligent presenting window according to an exemplary embodiment;

[0092] FIG. 12 is a schematic diagram illustrating an intelligent presenting window according to an exemplary embodiment;

[0093] FIG. 13 is a schematic diagram illustrating an intelligent presenting window according to an exemplary embodiment;

[0094] FIG. 14 is a schematic diagram illustrating an intelligent presenting window according to an exemplary embodiment;

[0095] FIG. 15 is a schematic diagram illustrating an intelligent presenting window according to an exemplary embodiment;

[0096] FIG. 16 is a schematic structural diagram illustrating components of an apparatus for intelligently presenting a document according to an exemplary embodiment; and

[0097] FIG. 17 is a schematic structural diagram illustrating components of an electronic device according to an exemplary embodiment.

DETAILED DESCRIPTION

[0098] To make the technical solution and beneficial effects of the present disclosure clearer and more understandable, detailed description will be given in the following by listing specific embodiments. Drawings may not be drawn on scale, and a local feature may

be enlarged or reduced to more clearly show details of the local feature. Unless otherwise defined, technical and scientific terms used herein have the same meanings as those in the field to which the present disclosure belongs.

[0099] The embodiments of the present disclosure are not exhaustive, are only illustrative of a part of embodiments and are not intended to limit the protection scope of the present disclosure. In a case without conflict, each step in an embodiment can be implemented as an independent embodiment, and steps can be combined arbitrarily. For example, a solution obtained by removing part of steps from an embodiment can also be implemented as an independent embodiment, and the order of steps in an embodiment can be arbitrarily exchanged. In addition, optional implementations in an embodiment may be arbitrarily combined. Furthermore, the embodiments may be arbitrarily combined with each other, e.g., part or all of steps in different embodiments may be arbitrarily combined, and an embodiment may be arbitrarily combined with an optional implementation in other embodiments.

[0100] In the embodiments of the present disclosure, unless otherwise specified or in case of logical conflict, the terms and/or descriptions in various embodiments are consistent and can be referenced mutually. Technical features in different embodiments can be combined to form a new embodiment according to their inherent logical relationships.

[0101] The terms used in the embodiments of the present disclosure are for the purpose of describing specific embodiments and are not intended to limit the present disclosure.

[0102] In the embodiments of the present disclosure, unless otherwise specified, an element expressed in a singular form, such as "a," "an," "the," "above-mentioned," "said," "aforementioned," or "this," etc., can represent "one and only one," "one or more," or "at least one," etc. For example, in a case that an English article such as "a," "an," or "the" is used in translation, the noun following the article can be understood as a singular form or a plural form.

[0103] In the embodiments of the present disclosure, "a plurality of" means two or more.

[0104] In some embodiments, terms such as "at least one of," "one or more," "a plurality of," and "multiple," etc., can be used interchangeably.

[0105] In some embodiments, expressions such as "at least one of A and B," "A and/or B," "in a case A, in another case B," and "a case A, another case B," etc., can include the

following technical solutions according to cases: in some embodiments, A (executing A independently of B); in some embodiments, B (executing B independently of A); in some embodiments, selectively executing A or B (A and B are selectively executed); and in some embodiments, both A and B (both A and B are executed). When there are more branches such as A, B, C, etc., it is similar to the above-mentioned cases.

[0106] In some embodiments, the expression “A or B” and the like includes the following technical solutions according to cases: in some embodiments, A (executing A independently of B); in some embodiments, B (executing B independently of A); and in some embodiments, selectively executing A or B (A and B are selectively executed). When there are more branches such as A, B, C, etc., it is similar to the above-mentioned cases.

[0107] In the embodiments of the present disclosure, prefixes such as "first," "second," etc., are only used to distinguish different described objects and do not limit the position, order, priority, value, or content of the described objects. Interpretation of the described objects shall refer to the claims or the context of the embodiments and should not be construed as additional limitation due to the use of the prefixes. For example, the described object is a "field," ordinal numbers before "field" in "first field" and "second field" do not limit the position or order of the fields, and "first" and "second" do not limit that the fields are in a same message or the order of the first field and the second field. For another example, the described object is a "level," ordinal numbers before "level" in "first level" and "second level" do not limit the priority between the levels. For yet another example, a value of the described object is not limited by the ordinal number and can be one or more. Taking a first apparatus as an example, the value of the apparatus can be one or more. In addition, objects modified by different prefixes can be the same or different. For example, the described object is a "apparatus," and "first apparatus" and "second apparatus" may be the same apparatus or different apparatuses, and types of them can be the same or different. For another example, the described object is "information," and "first information" and "second information" can be the same information or different information, and their contents can be the same or different.

[0108] In some embodiments, “comprise A,” “include A,” “indicate A,” and “carry A,” etc., can be interpreted as either directly carrying A or indirectly indicating A.

[0109] In some embodiments, terms such as "...," "determining...," "in a case that...,"

"when...", "upon...", "in the event that...", "if...", etc., can be used interchangeably.

[0110] In some embodiments, terms such as "greater than," "greater than or equal to," "not smaller than," "more than," "more than or equal to," "not less than," "higher than," "higher than or equal to," "not lower than," "or more," etc., can be used interchangeably. Terms such as "smaller than," "smaller than or equal to," "not greater than," "less than," "less than or equal to," "not more than," "lower than," "lower than or equal to," "not higher than," "or less," etc., can be used interchangeably.

[0111] In some embodiments, an apparatus, etc., can be interpreted as either physical or virtual, and its name is not limited to the name recited in the embodiments. Terms such as "apparatus," "equipment," "device," "circuit," "cell," "node," "function," "unit," "section," "system," "network," "chip," "chip system," "entity," "object," etc., can be used interchangeably.

[0112] In addition, each element, row, or column in a table in the embodiments of the present disclosure can be implemented as an independent embodiment, and the combination of any element, any row, or any column can also be implemented as an independent embodiment.

[0113] As shown in FIG. 1, an embodiment of the present disclosure relates to a method for intelligently presenting a document. The method for intelligently presenting a document includes:

[0114] Step 101: displaying a first document and a second window for human-computer interaction in a first window;

[0115] Step 102: determining a first semantic meaning of first input information input by a user in the second window, where the first input information is used to indicate analysis for the first document;

[0116] Step 103: analyzing the first document based on the first semantic meaning to obtain a full-text analysis result; and

[0117] Step 104: displaying the full-text analysis result.

[0118] In a possible implementation, the method for intelligently presenting the document may be executed by a local computer or a remote server.

[0119] In a possible implementation, the method for intelligently presenting the document may be executed by the combination of the local computer and the remote server.

For example, Steps 101, 102, and 104 may be executed by the local computer, and Step 103 may be executed by the remote server. In another example, Steps 101 and 104 may be executed by the local computer, and Steps 102 and 103 may be executed by the remote server.

[0120] In a possible implementation, the first document may include a patent document.

[0121] Here, the first document may be obtained by searching or directly opened by the user.

[0122] In a possible implementation, the step of displaying a first document in a first window may include displaying a full text of the first document. For example, the first window may display the full text in a split screen, and the user may select the content to be browsed by means of a sliding block or the like.

[0123] In a possible implementation, the step of displaying a first document in a first window may include displaying different paragraphs contained in the first document, respectively. For example, the first window may provide tabs for five standard parts of a patent document (i.e., abstract, claims, description, drawings, abstract drawing), respectively, through which the user may select the content to be browsed.

[0124] In a possible implementation, the first window may also display information related to the first document, such as legal status, citation information, patent family, or the like of the patent document, which are not limited herein.

[0125] The first window may also display operational icons for operations performed on the first document, such as save-to- collection, translation, keeping, etc., which are also not limited herein.

[0126] In a possible implementation, the first window may include a browser window.

[0127] In a possible implementation, the second window may include one of the following: a part of space divided from the first window; a plugin window within the first window; or a card window floating on the first window.

[0128] A manner in which the user inputs the first input information in the second window may include one of the following: keyboard input, handwriting input, or voice recognition input.

[0129] In a possible implementation, the manner in which the user inputs the first input information in the second window may include: selecting the first input information from

at least one first candidate input information pre-configured in the second window. Here, the first candidate input information may include: pre-configured input information statistically derived from historical input information, where the user's input frequency is higher than a frequency threshold; input information pre-configured based on the analysis capability of a language model.

[0130] The first input information may include input text information, voice information, etc. The first semantic meaning may be the meaning expressed by the first input information obtained by performing machine analysis on the first input information. The text information and/or voice information are carriers of language. The text information has no meaning to a computer device, etc. The computer (the language model), etc., needs to assign meaning, i.e., semantic meaning, to the text information and/or the voice information, so that the computer can understand and further process it.

[0131] In a possible implementation, Step 103 may include: analyzing the first document using the language model based on the first semantic meaning to obtain the full-text analysis result. Here, the language model may include a machine learning model. The language model may be pre-trained to realize at least one of the following: determining the semantic meaning of the input information, understanding the semantic meaning, or analyzing the document.

[0132] In a possible implementation, the language model may include a generative pre-trained transformer (GPT). Here, the full-text analysis result may not be obtained by extracting text information from the first document, but obtained by realizing the language model's understanding for the first document based on the pre-training of the language model, and performing summarization and/or secondary inference on the first document, thereby reducing the time of obtaining the full-text analysis result by understanding the first document by the user, and thus improving the efficiency of understanding the first document by the user.

[0133] In a practical application, the language model may employ a generative AI model such as ChatGPT 3.5 Turbo, ChatGPT 4.0, or Llama 2, etc. The generative AI model may perform the secondary deduction, thereby reducing the time of summarizing the deduction by the user and improving the reading efficiency.

[0134] In a possible implementation, the full-text analysis result may be obtained by

summarizing semantic meanings of all or part of document content of the first document.

[0135] In a possible implementation, the full-text analysis result may be obtained by performing the secondary deduction on all or part of document content of the first document. In a possible implementation, the step of determining a first semantic meaning of first input information input by a user in the second window may include: determining the first semantic meaning of the first input information input by the user in the second window using a voice model.

[0136] The first input information may indicate that the full text of the first document from different perspectives will be analyzed and understood.

[0137] Exemplarily, taking a case that the first document is a patent document as an example, the first input information may indicate that at least one of the following of the full text of the patent document will be analyzed: a technical solution, beneficial effects, a technical problem, an implementation, and an embodiment.

[0138] The language model may perform full-text analysis according to the first semantic meaning to obtain a full-text analysis result for an analysis project indicated by the first input information. In a possible implementation, the full-text analysis result may be displayed in at least one of the first window and the second window.

[0139] In a possible implementation, the full-text analysis result may be displayed in a window different from the first and second windows.

[0140] In a possible implementation, the second window may display the first input information and the full-text analysis result of the first input information in a form of human-computer dialog.

[0141] Exemplarily, as shown in FIG. 2, taking a case that the first document is a patent document as an example, a part of the first window displays the full text of the patent document. The first window may be configured with tabs for five parts of the patent document, and the user may browse the patent document through the tabs. The second window may be located on one side of the first window. The position and size of the second window may be freely adjusted by the user. The second window includes dialog display space and input space. The user may input the first input information in the input space at the bottom of the second window. The language model may determine the semantic meaning of the first input information and analyze the patent document. The display space

may display the first input information and the full text analysis result in a dialog manner.

[0142] In a possible implementation, at least one of the position and size of the second window may be adaptively adjusted according to the displayed content in the second window, thereby meeting the display requirement of the displayed content in the second window.

[0143] Thus, by displaying the first document in the first window and implementing document analysis interaction through the second window within the first window, thereby realizing the analysis of the first document. On one hand, the user can directly realize the interaction in the first window, thereby improving the convenience. On the other hand, document analysis using machine is relatively fast, so the time for manual reading and analysis is reduced and the efficiency of analyzing the first document is improved.

[0144] In some embodiments, the step of analyzing the first document based on the first semantic meaning to obtain a full-text analysis result includes: analyzing a selected part of the first document based on the first semantic meaning to obtain the full-text analysis result corresponding to the selected part of the first document.

[0145] The selected part of the first document may be selected by at least one of the following: the selected part is directly selected in the first document using a mouse, touch, or the like by the user;

[0146] the selected part is specified by the first input information, for example, the selected part is selected by specifying a paragraph or other position information; and

[0147] text information of the first document displayed in the first window is identified as the selected part.

[0148] The language model, etc., may analyze the selected part of the first document. For example, it performs secondary deduction on the selected part of the first document.

[0149] Exemplarily, the user may select a part of the content in the first document using a mouse or the like as the selected part, and input the first input information in the second window, for example, the user may instruct to summarize the selected part. The language model may summarize the selected part to obtain a summary result for the selected part. As shown in FIG. 2, paragraph [00N] is the selected part, and the first input information instructs "summarization". Therefore, the full-text analysis result in FIG. 2 is the summary result for paragraph [00N].

[0150] Thus, the analysis on the first document is not limited to the full text, but may also be performed on the selected part, thereby improving the flexibility of analyzing the first document.

[0151] As shown in FIG. 3, an embodiment of the present disclosure relates to a method for intelligently presenting a document, which includes:

[0152] Step 301: displaying at least one position information in at least one of the first window and the second window, where the position information is used to indicate a position of the document content associated with the full-text analysis result in the first document.

[0153] Step 301 may be implemented independently or in combination with any of Steps 101 to 104.

[0154] The full-text analysis result may be obtained by performing summarization and/or secondary deduction on part or all of document content of the first document using the language model. The full-text analysis result may not contain the original text of the first document, or may contain content not present in the original text of the first document, or a part of the full-text analysis result may contain the original text of the first document. The position of the document content associated with the full-text analysis result in the first document may be displayed for the user to view. The user may browse the document content to further confirm the full-text analysis result and determine the accuracy of the full-text analysis.

[0155] In a possible implementation, the document content associated with the full-text analysis result may include at least one of the following:

[0156] content for supporting the full-text analysis result in the first document;

[0157] content for performing deduction to obtain the full-text analysis result in the first document; and

[0158] the basis for summarizing the full-text analysis result in the first document.

[0159] Thus, on one hand, the user can quickly find the document content associated with the full-text analysis result in the full text of the first document via the position information, thereby facilitating the user's review of the associated document content and improving the efficiency of reviewing the document content. On the other hand, the user can browse the document content to further confirm the full-text analysis result, thereby determining the

accuracy of the full-text analysis result and improving the efficiency of assessing the credibility of the full-text analysis result.

[0160] The position information may indicate at least one of the following:

[0161] a paragraph where the document content is located; and

[0162] a page number where the document content is located.

[0163] Exemplarily, as shown in FIG. 4, the second window may display the full-text analysis result. The position information may be displayed at the bottom of the full-text analysis result. In FIG. 4, paragraphs X, Y, and Z indicate the paragraphs where the document content supporting the full-text analysis result is located, respectively. The content in the paragraphs X, Y, and Z may be the same or different.

[0164] As shown in FIG. 5, an embodiment of the present disclosure relates to a method for intelligently presenting a document, which includes:

[0165] Step 501: in response to displaying the at least one position information, associating the first document with a position indicated by the at least one position information in the first window.

[0166] Step 501 may be implemented independently or in combination with any of Steps 101 to 104 and 301. In a possible implementation, the step of in response to displaying the at least one position information, associating the first document with a position indicated by the at least one position information in the first window may include: displaying the document content of the position indicated by the at least one position information of the first document in the first window.

[0167] In a possible implementation, the step of associating the first document with a position indicated by the position information may include linking the document content of the position indicated by the position information with the position indicated by the position information. For example, the position information may have a link that can directly link to the document content of the position indicated by the position information. When triggering the position information, the document content of the position indicated by the position information may be displayed. Here, triggering the position information may include at least one of the following: the position information is displayed, an operation is performed on the position information, and the position of the position information when a plurality of position information are displayed simultaneously meets a

predetermined condition.

[0168] To facilitate the user in browsing the document content supporting the full-text analysis result, the first window may display the document content of the position indicated by the at least one position information. For example, the display content of the first window may switch to the position containing the document content indicated by the at least one position information.

[0169] Exemplarily, as shown in FIG. 4, the second window may display the full-text analysis result. The position information may be displayed at the bottom of the full-text analysis result. In FIG. 4, paragraphs X, Y, and Z respectively indicate the paragraphs where the document content supporting the full-text analysis result is located. The content in paragraphs X, Y, and Z may be the same or different. At the position displaying the first document in the first window, it may display the document content of the position indicated by the position information. For example, the first window may display the document content of paragraphs X and Y.

[0170] In a possible implementation, the position corresponding to the document content displayed in the first window may be predetermined. Exemplarily, the first window may determine the document content to be preferentially displayed based on the order of a plurality of positions in the first document. For example, the first window may preferentially display the document content of the first document whose position information indicates a preceding position in priority.

[0171] In a possible implementation, for a plurality of positions respectively indicated by a plurality of position information, the user may customize a position to be preferentially displayed.

[0172] By associating the first document with the position indicated by the at least one position information, the convenience for reviewing the document content by the user can be improved, thereby improving the efficiency of reading the document.

[0173] In some embodiments, the position information is used for selection, so as to associate the position indicated by the position information with the first document in the first window.

[0174] In a possible implementation, associating the first document with a position indicated by the position information in the first window may include: adjusting the first

document to a position indicated by the position information corresponding to the selection operation for displaying in the first window.

[0175] In a possible implementation, selecting the position information may include performing a selection operation (e.g., hovering with a mouse, clicking, double-clicking, long-pressing, etc.) on the position information.

[0176] The position information displaying the position may be configured with a hyperlink or a command statement, etc. When a selection operation is detected, the hyperlink or command statement may be executed to display the document content of the position indicated by the position information corresponding to the selection operation in the first window, thereby improving the speed at which the user directly browses the document content and improving the convenience and the efficiency of browsing the document content.

[0177] As shown in FIG. 6, when the user clicks the position information "paragraph Z" in the second window with a mouse, the first window may display the document content of the paragraph Z.

[0178] In some embodiments, the step of analyzing the first document based on the first semantic meaning to obtain a full-text analysis result includes:

[0179] analyzing the first document based on a target content categorization indicated by the first semantic meaning to obtain at least one full-text analysis result associated with the target content categorization.

[0180] the step of displaying the full-text analysis result includes:

[0181] categorizing and displaying each of the at least one full-text analysis result based on at least one sub-categorization attribute contained in the target content categorization.

[0182] Here, the content categorization may be a categorization based on document content of the first document. For example, a patent document may contain content with different categorizations. For example, content of the description in the patent document may usually include: background, summary, and embodiments, etc. The full-text analysis result of the target content categorization may be a summary and/or analysis result of the document content corresponding to the target content categorization.

[0183] In a possible implementation, one target content categorization may correspond to a plurality of full-text analysis results. For example, a patent document usually has a

plurality of embodiments.

[0184] When determining the full-text analysis results, the language model may determine content corresponding to the sub-categorization attribute in each of the full-text analysis results and categorize and display the full-text analysis result based on the sub-categorization attribute. The sub-categorization attribute may include necessary elements that constitute the full-text analysis result. For example, in a same patent document, specific implementations of various embodiments may be different, that is, the sub-categorization attributes of various embodiments are not completely the same.

[0185] Exemplarily, as shown in FIG. 7, for a target content categorization indicated by the first input information, two full-text analysis results are obtained: a Full-Text Analysis Result 1 and a Full-Text Analysis Result 2. The full-text analysis results are listed in a list format to show the results corresponding to each sub-categorization attribute. Thus, on one hand, the user can more intuitively understand the full-text analysis results; on the other hand, it is more convenient to compare the two full-text analysis results, thereby improving the efficiency of interpreting the document.

[0186] Exemplarily, elements constituting an embodiment in a patent document may be diverse. For example, for an electronic circuit embodiment, the elements include electronic components, connection manners of the electronic components, working timing, etc. For another example, for a mechanical structure embodiment, the elements include a structure of a section, a material of the section, etc. For another example, for a chemical material preparation embodiment, the elements include a raw material, a proportion, a preparation process, etc. For example, as shown in FIG. 8, in a patent document for the chemical material preparation, performing the full-text analysis based on the target content categorization (an embodiment) may obtain two full-text analysis results (i.e., two embodiments), and each embodiment is categorized and displayed based on the sub-categorization attributes (i.e., the material, the proportion, the process). Thus, on one hand, the user can more intuitively understand the embodiments; on the other hand, it is more convenient to compare the two embodiments, thereby improving the efficiency of interpreting the document.

[0187] In some embodiments, the sub-categorization attributes contained in the target content categorization are preset; and/or

[0188] the sub-categorization attributes contained in the target content categorization are configured based on the full-text analysis result.

[0189] In a possible implementation, the sub-categorization attributes may be preset based on types of the full-text analysis results. For example, the corresponding sub-categorization attributes may be pre-configured for an electronic circuit embodiment, a mechanical structure embodiment, or a chemical material preparation embodiment. After obtaining the full-text analysis results through the language model, the language model may determine the sub-categorization attributes to be displayed based on the types of the full-text analysis results, and the full-text analysis results are categorized and displayed based on the sub-categorization attributes.

[0190] In a possible implementation, for a part other than the content corresponding to the sub-categorization attribute in the full-text analysis result, the language model may also configure a sub-categorization attribute other than a pre-configured sub-categorization attribute to categorize and display the full-text analysis result.

[0191] For example, when X full-text analysis results having content with the same categorization other than the pre-configured sub-categorization attribute are obtained, the language model may configure corresponding sub-categorization attributes for the content with the same categorization and display them when displaying the X full-text analysis results. Here, X is an integer greater than or equal to 2.

[0192] As shown in FIG. 9, an embodiment of the present disclosure relates to a method for intelligently presenting a document, which includes:

[0193] Step 901: determining N candidate documents meeting search criteria, and displaying association information respectively corresponding to the N candidate documents in a third window;

[0194] Step 902: displaying a fourth window for human-computer interaction in the third window;

[0195] Step 903: determining a second semantic meaning of second input information input by the user in the fourth window, where the second input information is used to indicate statistical analysis of the N candidate documents;

[0196] Step 904: analyzing the N candidate documents based on the second semantic meaning to obtain a statistical analysis result; and

[0197] Step 905: displaying the statistical analysis result.

[0198] Steps 901 to 905 may be implemented independently or in combination with any of Steps 101 to 104, 301, and 501.

[0199] In a possible implementation, the method for intelligently presenting a document may be executed by a local computer or a remote server.

[0200] In a possible implementation, the method for intelligently presenting the document may be jointly executed by the local computer and the remote server. For example, Steps 901, 902, 903, and 905 may be executed by the local computer, and Step 904 may be executed by the remote server. For another example, Steps 901, 902 and 905 may be executed by the local computer, and Steps 903 and 904 may be executed by the remote server, which are not limited to this.

[0201] In a possible implementation, the candidate documents may include a candidate patent document.

[0202] Exemplarily, the search criteria may be input in a patent document search system, and the system may perform a search to obtain the N candidate documents that meet the search criteria. Here, N is an integer greater than or equal to 1.

[0203] In a possible implementation, the associated information corresponding to the candidate documents may partially or uniquely identify the candidate documents.

[0204] In a possible implementation, the associated information respectively corresponding to the N candidate documents may include at least one of the following: a candidate document identifier (such as an application number and/or a publication number of the patent document, etc.); a title of the candidate document (such as a title of the patent document, etc.); a party associated with the candidate document (such as an applicant, a right holder, and/or an inventor of the patent document, etc.); an associated image of the candidate document (such as drawings and/or abstract drawing of the patent document, etc.); or a status of the candidate document (such as a legal status of the patent document, etc.).

[0205] For example, the third window may display the associated information respectively corresponding to the N candidate documents in a split-screen layout, and the user may select the content to be browsed via a sliding block or other manners.

[0206] In a possible implementation, the third window may also include a filter condition

for the N candidate documents. For example, the user may further filter the N candidate documents through the filter condition.

[0207] In a possible implementation, the fourth window may include one of the following: partial space divided from the third window; a plugin window within the third window; or a card window floating on the third window.

[0208] A manner the user inputs the second input information in the third window may include one of the following: keyboard input, handwriting input, or voice recognition input.

[0209] In a possible implementation, the manner the user inputs the second input information in the third window may also include: selecting the second input information from at least one pre-configured second candidate input information in the third window. Here, the second candidate input information may include: pre-configured input information statistically derived from historical input information, where the user's input frequency is higher than a frequency threshold; or input information pre-configured based on the analysis capability of the language model.

[0210] In a possible implementation, Step 904 may include: analyzing the N candidate documents based on the second semantic meaning using the language model to obtain the statistical analysis result.

[0211] Here, the language model may include a machine learning model. The language model may be pre-trained to realize at least one of the following: determining the semantic meaning of the input information, understanding the semantic meaning, or analyzing the document.

[0212] In a possible implementation, the language model may include a Generative Pre-trained Transformer (GPT).

[0213] Here, the statistical analysis result may be obtained by performing summarization and/or secondary deduction based on the candidate documents using the language model. In a possible implementation, determining the second semantic meaning of the second input information input by the user in the third window may include: determining the second semantic meaning of the second input information input by the user in the third window using a voice model.

[0214] The second input information may indicate that the N candidate documents will be summarized and analyzed.

[0215] Exemplarily, taking a case that the candidate documents are patent documents as an example, the second input information may indicate that at least one of the following of the N candidate documents will be summarized and analyzed: a type of an adopted technical solution, an associated right holder, an involved field, the number of patent documents for a specific statistical project, etc.

[0216] The language model may perform a full-text analysis based on the second semantic meaning to obtain a statistical analysis result for an analysis project indicated by the second input information.

[0217] In a possible implementation, the statistical analysis result may be displayed in at least one of the third window and the fourth window.

[0218] In a possible implementation, the statistical analysis result may be displayed in a window different from the third window and the fourth window.

[0219] In a possible implementation, the third window may display the second input information and the statistical analysis result for the second input information in a human-computer dialogue format.

[0220] Exemplarily, as shown in FIG. 10, taking a case that the candidate documents are patent documents as an example, a part of the third window is used to display the associated information respectively corresponding to the N candidate documents. The fourth window may be located on one side of the third window. The position and size of the fourth window may be adaptively adjusted by the user. The fourth window includes dialogue display space and input space. The user may input the second input information in the input space at the bottom of the fourth window. The language model may determine the semantic meaning of the second input information and analyze the N candidate documents. The display space may display the second input information and the statistical analysis result in a dialogue manner.

[0221] In a possible implementation, at least one of the position and size of the fourth window may be adaptively adjusted based on content displayed in the fourth window to meet the display requirement of the content displayed in the fourth window.

[0222] Thus, in the third window displaying the N candidate documents, the interaction for statistical analysis of the N candidate documents may be realized by the fourth window, and statistical analysis of a plurality of candidate documents may be realized by the

language model. On one hand, the user can directly realize the interaction in the third window, thereby improving the convenience. On the other hand, since the speed of document analysis using a machine is relatively fast, the time spent on manually reading the statistical analysis is reduced, and the efficiency of statistically analyzing the N candidate documents is improved.

[0223] In some embodiments, the step of analyzing the first document based on the second semantic meaning to obtain a full-text analysis result includes:

[0224] analyzing the N candidate documents based on a first statistical analysis parameter indicated by the second semantic meaning to obtain statistical counts of candidate documents respectively corresponding to I first sub-analysis parameters associated with the first statistical analysis parameter.

[0225] The step of displaying the statistical analysis result includes:

[0226] displaying the statistical counts respectively corresponding to the I first sub-analysis parameters.

[0227] Here, the first statistical analysis parameter may be a project that needs to be statistically analyzed.

[0228] In a possible implementation, a first sub-analysis parameter is an analysis result obtained by analyzing the first statistical analysis parameter of each candidate document. First sub-analysis parameters obtained by analyzing first statistical analysis parameters of different candidate documents may be different or the same. One candidate document may have one or more associated first sub-analysis parameters.

[0229] As shown in FIG. 11, four first sub-analysis parameters associated with the first statistical analysis parameter are obtained by analyzing the N candidate documents: first sub-analysis parameter 1 to first sub-analysis parameter 4. Each first sub-analysis parameter corresponds to one or more candidate documents. The statistical count corresponding to each first sub-analysis parameter may be displayed in the fourth window. In FIG. 11, XXX, YYY, ZZZ, and AAA represent the statistical counts.

[0230] Exemplarily, as shown in FIG. 12, taking that the candidate documents are patent documents as an example, the first statistical analysis parameter may be "beneficial effects," that is, the voice model needs to statistically analyze the beneficial effects of the N patent documents. The beneficial effects of each patent document may be the same or

different. One patent document may have one or more beneficial effects. The beneficial effects (first sub-analysis parameter) obtained through the statistical analysis include improving stability, improving sealing performance, reducing power consumption, and reducing wear, thereby obtaining the statistical count of patent documents corresponding to each beneficial effect.

[0231] In a possible implementation, in a case that the fourth window cannot display the statistical counts corresponding to all the first sub-analysis parameters, the statistical counts can be displayed based on a predetermined priority. For example, a first sub-analysis parameter with a higher statistical count has a higher preference.

[0232] In some embodiments, the step of displaying the statistical counts respectively corresponding to the I first sub-analysis parameters includes:

[0233] categorizing and displaying the statistical counts based on a first categorization parameter.

[0234] The first categorization parameter may be a categorization of the candidate documents, so that the statistical count of the first categorization parameter can be counted for sub-divided types of the candidate documents.

[0235] As shown in FIG. 13, the statistical counts in FIG. 11 may be counted in a sub-divided form according to the first categorization parameter 1 to the first categorization parameter 3. In FIG. 13, X, Y, Z, XX, YY, ZZ, and AA represent the statistical counts.

[0236] Exemplarily, as shown in FIG. 14, for the statistical analysis result of the beneficial effects shown in FIG. 12, years that candidate patent applications were filed may be counted in a sub-divided form, so as to obtain the statistical counts of the patent documents corresponding to different beneficial effects and different years.

[0237] In some embodiments, the statistical counts are used for selection to display association information respectively corresponding to candidate documents corresponding to the selected statistical count in a fifth window.

[0238] Here, selecting the statistical count may be performed by a first operation (such as hovering with a mouse, clicking, double-clicking, long-pressing, etc.) on the displayed statistical count.

[0239] Each statistical count may be configured with a hyperlink or a command statement, etc. When a selection operation for a certain statistical count is detected, the hyperlink or

command statement, etc., may be executed to display the associated information respectively corresponding to the candidate documents corresponding to the statistical count.

[0240] In a possible implementation, the third window and the fifth window may be the same window.

[0241] In a possible implementation, the third window and the fifth window may be different windows.

[0242] For example, in the statistical counts of the patent documents shown in FIG. 14, any statistical count may be clicked with the mouse to display the associated information respectively corresponding to the candidate documents corresponding to the statistical count in the fifth window. A manner the fifth window displays the associated information respectively corresponding to the candidate documents may be the same as the manner the first window displays the associated information respectively corresponding to the candidate documents. From another perspective, displaying the candidate documents in the fifth window is regarded as a cycle of displaying the candidate documents in the first window.

[0243] In a possible implementation, a seventh window for human-computer interaction may be displayed in the fifth window, a role of the seventh window is similar to that of the fourth window, which is used to statistically analyze the candidate documents displayed in the fifth window.

[0244] In some embodiments, the step of displaying the statistical counts respectively corresponding to the I first sub-analysis parameters includes:

[0245] displaying the statistical counts respectively corresponding to the I first sub-analysis parameters in a first form;

[0246] using the statistical counts displayed in the first form for selection to display the statistical counts respectively corresponding to the I first sub-analysis parameters in a second form, where display area in the second form is larger than display area in the first form, and

[0247] using the statistical counts displayed in the second form for selection to display association information corresponding to the candidate documents corresponding to the selected statistical count displayed in the second form in the fifth window.

[0248] In a possible implementation, the first form may include a table display, a curve chart display, a pie chart display, etc.

[0249] In a possible implementation, the second form may have the same display manner as that of the first form, but with different display area.

[0250] The manner to select the statistical counts is as described above and is not repeated here.

[0251] In a possible implementation, the statistical counts in the second form may be displayed in a sixth window.

[0252] The sixth window may be different from the third window and the fourth window. The sixth window may be the same window as the third window or the fourth window.

[0253] As shown in FIG. 15, the first form is to display the statistical counts using a first table. After performing a selection operation, a second table may be displayed in the sixth window instead of directly displaying the fifth window. Display area of the sixth window may be the same as that of the third window, thereby accommodating the second table with relatively large area.

[0254] In a possible implementation, the text in the second form is larger than that in the first form, thereby fascinating the observation of the user.

[0255] In a possible implementation, the second form may display the statistical counts corresponding to the first sub-analysis parameters that cannot be shown in the first form, thereby improving the display completeness of the statistical analysis result.

[0256] In a possible implementation, the sixth window may have a format conversion option configured to convert the display manner of the statistical counts displayed in the second form. Exemplarily, the statistical counts displayed in the second form may be converted to be displayed in a third form. For example, the statistical counts displayed in the table may be converted to be displayed in a curve chart, a bar chart, etc.

[0257] In some embodiments, the associated information respectively corresponding to the N candidate documents displayed in the third window are used for selection to display the candidate documents corresponding to the selected associated information in the first window.

[0258] In a possible implementation, the third window and the first window are the same window.

[0259] In a possible implementation, the third window and the first window are different windows.

[0260] In a possible implementation, the embodiment shown in FIG. 9 may be implemented before the embodiment shown in FIG. 1.

[0261] Here, the selection operation may include one of the following: hovering with a mouse, clicking, double-clicking, or long-pressing.

[0262] Each of the associated information may be configured with a hyperlink or a command statement. When a selection operation for certain associated information is detected, the hyperlink or the command statement may be executed to display the candidate documents corresponding to the associated information in the first window. In other words, the first document is displayed in the first window.

[0263] FIG. 16 shows an apparatus 10 for intelligently presenting a document provided by an embodiment of the present disclosure. The apparatus 10 includes a processing module 11 configured to:

[0264] display a first document and a second window for human-computer interaction in a first window.

[0265] determine a first semantic meaning of first input information input by a user in the second window, where the first input information is used to indicate analysis for the first document;

[0266] analyze the first document based on the first semantic meaning to obtain a full-text analysis result; and

[0267] display the full-text analysis result.

[0268] In some embodiments, the processing module is also configured to:

[0269] display at least one position information in at least one of the first window and the second window, where the position information is used to indicate a position of document content associated with the full-text analysis result in the first document.

[0270] In some embodiments, the processing module is also configured to:

[0271] in response to displaying the at least one position information, associate the first document with the position indicated by the at least one position information in the first window.

[0272] In some embodiments, the position information is used for selection to associate

the position indicated by the position information with the first document in the first window.

[0273] In some embodiments, the processing module is specifically configured to:

[0274] analyze the first document based on a target content categorization indicated by the first semantic meaning to obtain at least one full-text analysis result associated with the target content categorization.

[0275] categorize and display each of the least one full-text analysis result based on at least one sub-categorization attribute contained in the target content categorization.

[0276] In some embodiments, the sub-categorization attribute contained in the target content categorization is preset; and/or

[0277] The sub-categorization attribute included in the target content categorization is configured based on the full-text analysis result.

[0278] In some embodiments, the processing module is further configured to:

[0279] determine N candidate documents meeting search criteria and display association information respectively corresponding to the N candidate documents in a third window;

[0280] display a fourth window for human-computer interaction in the third window;

[0281] determine a second semantic meaning of second input information input by the user in the fourth window, where the second input information is used to indicate statistical analysis of the N candidate documents;

[0282] analyze the N candidate documents based on the second semantic meaning to obtain a statistical analysis result; and

[0283] display the statistical analysis result.

[0284] In some embodiments, the processing module is specifically configured to:

[0285] analyze the N candidate documents based on a first statistical analysis parameter indicated by the second semantic meaning to obtain statistical counts of candidate documents respectively corresponding to I first sub-analysis parameters associated with the first statistical analysis parameter.

[0286] display the statistical counts respectively corresponding to the I first sub-analysis parameters.

[0287] In some embodiments, the processing module is specifically configured to:

[0288] categorize and display the statistical counts based on a first categorization

parameter.

[0289] In some embodiments, the statistical counts are used for selection to display association information respectively corresponding to candidate documents corresponding to a selected statistical count in a fifth window.

[0290] In some embodiments, the processing module is specifically configured to:

[0291] display the statistical counts respectively corresponding to the I first sub-analysis parameters in a first form;

[0292] use the statistical counts displayed in the first form for selection to display the statistical counts respectively corresponding to the I first sub-analysis parameters in a second form, where display area in the second form is larger than display area in the first form; and

[0293] use the statistical counts displayed in the second form for selection to display association information of candidate documents corresponding to the selected statistical count displayed in the second form in the fifth window.

[0294] In some embodiments, the association information respectively corresponding to the N candidate documents displayed in the third window are used for selection to display a candidate document corresponding to the selected association information in the first window.

[0295] In some embodiments, the processing module is specifically configured to:

[0296] analyze a selected part of the first document based on the first semantic meaning to obtain a full-text analysis result corresponding to the selected part of the first document.

[0297] It should be understood that the division of units or modules in the above apparatus is only a division of a logical function. In actual implementation, they may be fully or partially integrated into one physical entity or physically separated. In addition, the units or modules in the apparatus may be implemented in a form of a software invoked by a processor. For example, the apparatus includes a processor connected to a memory. The memory stores instructions, and the processor invokes the instructions stored in the memory to implement any of the above methods or the functions of the units or modules of the apparatus. The processor may be a general-purpose processor, such as a Central Processing Unit (CPU) or a microprocessor. The memory may be a memory inside the apparatus or a memory outside the apparatus. Alternatively, the units or modules in the

apparatus may be implemented in a form of a hardware circuit. The functions of part or all of the units or modules may be implemented by designing the hardware circuit. The above-mentioned hardware circuit may be understood as one or more processors. For example, in one implementation, the above-mentioned hardware circuit is an application-specific integrated circuit (ASIC), and the functions of part or all of the units or modules are implemented by designing the logical relationship of elements in the circuit. For another example, in another implementation, the above-mentioned hardware circuit may be implemented by a programmable logic device (PLD). Taking a field programmable gate array (FPGA) as an example, it may include a large number of logic gate circuits, and a connection relationship between the logic gate circuits are configured through a configuration file to implement the functions of part or all of the units or modules. All units or modules in the above apparatus may be fully implemented by the software invoked by the processor, fully implemented by a hardware circuit, or partially implemented by the software invoked by the processor and the remaining part is implemented by the hardware circuit.

[0298] In an embodiment of the present disclosure, the processor is a circuit with the signal processing capability. In one implementation, the processor may be a circuit capable of reading and running instructions, such as a central processing unit (CPU), a microprocessor, a graphics processing unit (GPU) (which may be understood as a type of the microprocessor), or a digital signal processor (DSP), etc. In another implementation, the processor may implement a certain function through a logical relationship of hardware circuits. The logical relationship of the above-mentioned hardware circuits is fixed or reconfigurable. For example, the processor may be a hardware circuit implemented by an application-specific integrated circuit (ASIC) or a programmable logic device (PLD), such as an FPGA. In a reconfigurable hardware circuit, the processor loads a configuration file to implement process of configuring the hardware circuit, which may be understood as a process that the processor loads instructions to implement the functions of part or all of the above units or modules. In addition, the processor may also be a hardware circuit designed for artificial intelligence, which may be understood as a type of ASIC, such as a neural network processing unit (NPU), a tensor processing unit (TPU), a deep learning processing unit (DPU), etc.

[0299] FIG. 17 is a schematic structural diagram illustrating an electronic device 9100 provided by an embodiment of the present disclosure. The electronic device 9100 may be a computer terminal, a server, or a chip, a chip system, or a processor, etc., that supports the implementation of any of the above methods, or a chip, a chip system, or a processor, etc., that supports the implementation of any of the above information transmission methods by a terminal. The electronic device 9100 may be configured to implement the methods for intelligently presenting a document described in the above-mentioned method embodiments. For details, refer to the description in the above-mentioned method embodiments.

[0300] As shown in FIG. 17, the electronic device 9100 includes one or more processors 9101. The processor 9101 may be a general-purpose processor or a specific-purpose processor, etc. The processor 9101 is configured to invoke instructions to cause the electronic device 9100 to execute any of the above methods for intelligently presenting a document.

[0301] In some embodiments, the electronic device 9100 further includes one or more memories 9102 for storing instructions. Optionally, all or part of the memories 9102 may also be located outside the electronic device 9100.

[0302] In some embodiments, the electronic device 9100 further includes one or more transceivers 9103. When the electronic device 9100 includes one or more transceivers 9103, steps such as transmitting, receiving, and/or acquiring in the above-mentioned methods are executed by the transceiver 9103, and other steps are executed by the processor 9101.

[0303] In some embodiments, steps such as acquiring etc., in the above-mentioned methods may also be executed by the processor 9101, for example, acquiring information from the memory 9102, etc.

[0304] Optionally, the electronic device 9100 further includes one or more interface circuits 9104. The interface circuit 9104 is connected to the memory 9102 and may be configured to receive a signal from the memory 9102 or other apparatus, and transmit a signal to the memory 9102 or other apparatus. For example, the interface circuit 9104 may read instructions stored in the memory 9102 and transmit the instructions to the processor 9101.

[0305] The electronic device 9100 described in the above embodiments may be a network

device or a terminal, but the scope of the electronic device 9100 described in the present disclosure is not limited to this. A structure of the electronic device 9100 is not limited by FIG. 17. The electronic device may be an independent device or a part of a large device.

[0306] Those skilled in the art can understand that all or part of the steps in the above-mentioned method embodiments can be completed by a hardware related to program instructions. The aforementioned program can be stored in a storage medium. The storage medium includes: a mobile storage device, a Read-Only Memory (ROM), a Random Access Memory (RAM), a magnetic disk, or an optical disk, and other media that can store program codes.

[0307] Alternatively, if the integrated unit described above in the present disclosure is implemented in the form of a software functional module and sold or used as an independent product, it can also be stored in a computer-readable storage medium. Based on such understanding, the technical solutions of the embodiments of the present disclosure can be essentially embodied in the form of a software product, or a part that contributes to the prior art can be embodied in the form of a software product. The computer software product is stored in a storage medium and includes several commands to enable a computer device (which may be a personal computer, a server, or a network device, etc.) to execute all or part of the methods described in each of the embodiments of the present disclosure. The aforementioned storage medium includes: a mobile storage device, a ROM, a RAM, a magnetic disk, or an optical disk, and other media that can store program codes.

[0308] It should be understood that the above embodiments are exemplary and are not intended to cover all possible implementations included in the claims. Without departing from the scope of the present disclosure, various modifications and changes can be made based on the above embodiments. Similarly, the technical features of the above embodiments can be arbitrarily combined to form additional embodiments of the present disclosure that may not have been explicitly described. Therefore, the above-mentioned embodiments only express several implementations of the present disclosure and do not limit the protection scope of the present disclosure.

CLAIMS

1. A method for intelligently presenting a document, comprising:
 - displaying a first document and a second window for human-computer interaction in a first window;
 - determining a first semantic meaning of first input information input by a user in the second window, wherein the first input information is used to indicate analysis for the first document;
 - analyzing the first document based on the first semantic meaning to obtain a full-text analysis result; and
 - displaying the full-text analysis result.
2. The method according to claim 1, further comprising:
 - displaying at least one position information in at least one of the first window and the second window, wherein the position information is used to indicate a position of document content associated with the full-text analysis result in the first document.
3. The method according to claim 2, further comprising:
 - in response to displaying the at least one position information, associating the first document with the position indicated by the at least one position information in the first window.
4. The method according to claim 2, wherein:
 - the position information is used for selection to associate the position indicated by the position information with the first document in the first window.
5. The method according to claim 1, wherein the step of analyzing the first document based on the first semantic meaning to obtain a full-text analysis result comprises:
 - analyzing the first document based on a target content categorization indicated by the first semantic meaning to obtain at least one full-text analysis result associated with the target content categorization, and

the step of displaying the full-text analysis result comprises:

categorizing and displaying each of the at least one full-text analysis result based on at least one sub-categorization attribute contained in the target content categorization.

6. The method according to claim 5, wherein:

the sub-categorization attribute contained in the target content categorization is preset;
and/or

the sub-categorization attribute contained in the target content categorization is configured based on the full-text analysis result.

7. The method according to claim 1, further comprising:

determining N candidate documents meeting search criteria, and displaying association information respectively corresponding to the N candidate documents in a third window;

displaying a fourth window for human-computer interaction in the third window;

determining a second semantic meaning of second input information input by the user in the fourth window, wherein the second input information is used to indicate statistical analysis of the N candidate documents;

analyzing the N candidate documents based on the second semantic meaning to obtain a statistical analysis result; and

displaying the statistical analysis result.

8. The method according to claim 7, wherein the step of analyzing the first document based on the second semantic meaning to obtain a full-text analysis result comprises:

analyzing the N candidate documents based on a first statistical analysis parameter indicated by the second semantic meaning to obtain statistical counts of candidate documents respectively corresponding to I first sub-analysis parameters associated with the first statistical analysis parameter, and

the step of displaying the statistical analysis result comprises:

displaying the statistical counts respectively corresponding to the I first sub-analysis parameters.

9. The method according to claim 8, wherein the step of displaying the statistical counts respectively corresponding to the I first sub-analysis parameters comprises:

categorizing and displaying the statistical counts based on a first categorization parameter.

10. The method according to claim 8, wherein:

the statistical counts are used for selection to display association information respectively corresponding to the candidate documents corresponding to a selected statistical count in a fifth window.

11. The method according to claim 10, wherein the step of displaying the statistical counts respectively corresponding to the I first sub-analysis parameters comprises:

displaying the statistical counts respectively corresponding to the I first sub-analysis parameters in a first form;

using the statistical counts displayed in the first form for selection to display the statistical counts respectively corresponding to the I first sub-analysis parameters in a second form, wherein display area in the second form is larger than display area in the first form; and

using the statistical counts displayed in the second form for selection to display association information of the candidate documents corresponding to the selected statistical count displayed in the second form in the fifth window.

12. The method according to any one of claims 7 to 11, wherein:

the association information respectively corresponding to the N candidate documents displayed in the third window is used for selection to display a candidate document corresponding to selected association information in the first window.

13. The method according to any one of claims 7 to 11, wherein the step of analyzing the first document based on the first semantic meaning to obtain a full-text analysis result comprises:

analyzing a selected part of the first document based on the first semantic meaning to obtain a full-text analysis result corresponding to the selected part of the first document.

14. An apparatus for intelligently presenting a document, wherein the apparatus comprises a processing module configured to:

display a first document and a second window for human-computer interaction in a first window;

determine a first semantic meaning of first input information input by a user in the second window, wherein the first input information is used to indicate analysis for the first document;

analyze the first document based on the first semantic meaning to obtain a full-text analysis result; and

display the full-text analysis result.

15. An electronic device, comprising:

one or more processors;

wherein the processor is configured to invoke instructions to cause the electronic device to execute the method for intelligently presenting a document according to any one of claims 1 to 13.

16. A storage medium, wherein the storage medium stores instructions that, when the instructions are run on an electronic device, cause the electronic device to execute the method for intelligently presenting a document according to any one of claims 1 to 13.