

METHOD AND DEVICE FOR SAVING CHAT RECORD OF INSTANT MESSAGING

Technical Field

The present application relates to the field of network technologies, and in particular to a method and a device for saving chat records of instant messaging (IM).

Background

With the rapid development of network technologies, IM has become a common way of network communications.

When users use an IM tool to chat, a server would automatically save messages transmitted and received by an IM chat window to form chat records, which are saved on a client device in the form of files. IM tools typically provide a function for searching historical messages. When a user needs to review a historical message, he/she just needs to retrieve a corresponding file of chat records, type in a corresponding keyword, and then can acquire the desired historical message.

In the prior art, however, only plain text information transmitted or received by users can be searched. During chatting, a user can type in or receive non-text information, such as URL (Uniform Resource Locator), sharing of a public account, photos, or audio or video files. It is impossible for the user to search this type of non-text information.

Summary

The present application provides a method, a device and a server for saving IM chat records, so as to solve the problem in the prior art.

According to a first aspect of an embodiment of the present application, a method for saving IM chat records is provided, comprising:

when an instant message transmitted or received by an IM chat window comprises non-text information, acquiring a content summary of the non-text information;

saving the instant message, and saving the non-text information as a data object comprising the non-text information and the content summary of the non-text information.

According to a second aspect of an embodiment of the present application, a device for saving IM chat records is provided, comprising:

an acquisition unit configured to acquire, when an instant message transmitted or received by an IM chat window comprises non-text information, a content summary of the non-text information;

a saving unit configured to save the instant message, and save the non-text information as a data object comprising the non-text information and the content summary of the non-text information.

In an embodiment of the present application, when an instant message transmitted or received by an IM chat window comprises non-text information, a content summary of the non-text information is acquired; the non-text information is saved as a data object, and the data object comprises the non-text information and the content summary of the non-text information. When a user needs to acquire the non-text information by searching the chat records, he/she just needs to type some words in the content summary of the non-text information into a search box. As a result, the function of searching non-text information in chat records is realized and the problem in the prior art is solved.

Brief Description of the Drawings

Fig. 1 is a flow chart of an embodiment of a method for saving IM chat records according to the present application;

Fig. 2 is a flow chart of another embodiment of the method for saving IM chat records according to the present application;

Fig. 3 illustrates a hardware structure of an apparatus in which a device for saving IM chat records according to the present application is disposed;

Fig. 4 is a block diagram of an embodiment of the device for saving IM chat records according to the present application.

Detailed Description of the Invention

Exemplary embodiments will be described in detail herein, which are illustrated with the accompanying drawings. When the accompanying drawings are described below, the same numerals in different figures indicate the same or similar elements, unless otherwise described. The implementation manners described in the following exemplary embodiments do not represent all of the implementation manners consistent with the present application. On the contrary, they are merely examples of devices and methods that are described in detail in the appended claims and consistent with some aspects of the present application.

Terms in the present application are used only for the purpose of describing specific embodiments, not intended to limit the present application. “A”, “said” and “the” used in the singular form in the present application and the appended claims are also intended to comprise the plural form, unless other meanings are clearly expressed in the context. It should be further understood that the term “and/or” used herein refers to any or all possible combinations of one or more associated items that are listed.

It should be understood that terms like first, second and third may be used in the present application to describe various information; however, the information should not be limited to these terms. These terms are merely used to differentiate information of the same type. For example, without departing from the scope of the present application, the first information may also be referred to as the second information, and similarly, the second information may also be referred to as the first information. Depending on the context, for example, the term “if” used herein may be interpreted as “when...”, “during...”, or “in response to determination that”.

For the IM tools that are commonly used at present, all chat records are saved in the plain text format. When searching the chat records, a user has to type corresponding words into a search box and acquire corresponding historical messages through word matching.

If a hyperlink, for example an URL or sharing of a public account, is transmitted or received by a user during a chat session, the server records the hyperlink information also in the plain text format. Assume that a current user receives, in a chat window, an IM message, which is an URL, specifically being

http://www.sipo.gov.cn/zlsq/200804/t20080418_383686.html. The user clicks the URL to open the webpage of “Patent Application” of the website of the State Intellectual Property Office of the People’s Republic of China. In the chat records of the user, the URL is saved in the text format, and the content of the text is the URL itself. If the user desires to acquire the URL by searching the chat records, the user must provide all or a part of the URL. However, a user could typically only remember the subject content (i.e. Patent Application) of the webpage that the URL points to, while it is very difficult to remember the URL itself. With respect to a conventional method for saving IM chat records, therefore, it would be very difficult to implement search of hyperlink information transmitted or received by a user.

On the other hand, if a user sends or receives photos or audio or video files during a chat session, only the photos or audio or video files themselves can be saved in the chat records of the user. With respect to a conventional method for saving IM chat records,

therefore, it is impossible for the user to acquire photos or audio or video files that have been transmitted or received by searching the chat records.

In light of this, embodiments of the present application provide a method for saving IM chat records. Refer to Fig. 1, which is a flow chart of an embodiment of the method for saving IM chat records according to the present application. As shown in Fig. 1, the method is applied on a server, and the method comprises:

Step 101: when an instant message transmitted or received by an IM chat window comprises non-text information, acquiring a content summary of the non-text information.

Step 102: saving the instant message, and saving the non-text information as a data object comprising the non-text information and the content summary of the non-text information.

According to the method for saving IM chat records provided by the embodiment of the present application, non-text information transmitted or received by a user at an IM chat window is saved as a data object, and the data object comprises the non-text information and the content summary of the non-text information. When a user needs to acquire the non-text information by searching the chat records, he/she just needs to type some words in the content summary of the non-text information into a search box. As a result, the function of searching non-text information in chat records is realized and the problem in the prior art is solved.

The method for saving IM chat records according to an embodiment of the present embodiment will be described in detail below.

Refer to Fig. 2, which is a flow chart of another embodiment of the method for saving IM chat records according to the present application. As shown in Fig. 2, the method is applied on a server, and the method comprises the following steps:

Step 201: the server determines whether an instant message transmitted or received by an IM chat window comprises non-text information, and if yes, proceeds to Step 202; otherwise, saves the instant message in a conventional manner.

In the embodiment of the present application, a user initiates or receives IM by means of an IM software application installed on a client device. During a chat session, the user transmits or receives an instant message through an IM chat window, and the instant message may probably comprise non-text information.

Specifically, the non-text information may comprise hyperlinks, photos, audio or video files, etc.

Herein, a hyperlink refers to a connection relationship that points from one object to a target. Such a target may be a webpage, or may be a part of the content on a webpage, for example, a photo, a file, or even an application.

In the embodiment of the present application, when the instant message comprises a hyperlink, the hyperlink information may be embodied in two ways.

One is an absolute URL hyperlink. The URL is a full path of a website or webpage on a network. When the hyperlink comprised in the instant message is in the URL form, the instant message comprises full path information of a website or webpage, and a browser can be directly activated to access the webpage corresponding to the URL by clicking the URL.

The other one is a relative URL hyperlink, for example, a passage of words, a photo, or a clip of audio or video being linked to a website or webpage. At this time, the instant message comprises a passage of words, a photo, or a clip of audio or video, and the browser can also be directly activated to access a corresponding webpage by clicking the words, the photo, or the audio or video.

According to a conventional method for saving IM chat records, the conventional method is used to save chat records regardless whether an instant message transmitted or received by a user through an IM chat window comprises non-text information. Specifically, instant messages transmitted or received by the IM chat window are directly saved, in the plain text form, as chat records in a database.

In the embodiment of the present application, however, the server needs to evaluate an instant message transmitted or received by the current IM chat window, and saves the instant message in a conventional manner only when the instant message does not comprise non-text information, but only comprises plain text information. When the instant message comprises non-text information, on the other hand, the non-text information needs to be further processed before the instant message is saved.

Step 202: the server acquires a content summary corresponding to the non-text information.

In the embodiment of the present application, with respect to the non-text information comprised in the instant message, a content summary corresponding to the non-text information is acquired.

When the non-text information is a hyperlink, the server activates a browser to access the webpage corresponding to the hyperlink and acquire a content summary of the webpage corresponding to the hyperlink.

Specifically, assume that an instant message currently transmitted or received by a user comprises a hyperlink. When the user clicks the hyperlink, the server activates a browser to access the webpage corresponding to the hyperlink, acquire the information of the webpage corresponding to the hyperlink, and generate, according to the information of the webpage corresponding to the hyperlink, a content summary of the webpage corresponding to the hyperlink.

In practical applications, however, a user may probably not click a hyperlink when an instant message received or transmitted by the user comprises the hyperlink. For example, the hyperlink is transmitted by the user to an opposite-end user, so the user will typically not open the hyperlink to check; in another example, when an opposite-end user transmits the hyperlink, the user is in an away or offline state and cannot open the hyperlink to check. In such a case, the server may automatically activate a browser in the back end to access the webpage corresponding to the hyperlink, acquire information of the webpage corresponding to the hyperlink, and generate, according to the information of the webpage corresponding to the hyperlink, a content summary of the webpage corresponding to the hyperlink.

In the embodiment of the present application, the caption information of the webpage may be acquired, from the webpage information of the hyperlink, as the content summary of the webpage corresponding to the hyperlink.

For example, with the URL (http://www.sipo.gov.cn/zlsq/200804/t20080418_383686.html) as an example, a user clicks the URL, the caption information of the opened webpage is “Patent Application”, and then the caption information “Patent Application” may be used as the content summary of the webpage corresponding to the hyperlink.

In the embodiment of the present application, moreover, a number of keywords with relatively high frequency of occurrence may be extracted from the information of the webpage corresponding to the hyperlink, and these keywords are used as the content summary of the webpage corresponding to the hyperlink.

Specifically, for the information of the webpage corresponding to the hyperlink, the noise information, such as navigation links, advertisement links, and dates, is deleted from the webpage to obtain main text of the document corresponding to the webpage, the frequency of occurrence is counted for phrases in the main text of the document. Sentences or phrases with relatively high frequency of occurrence are extracted from each paragraph, respectively, as keywords, and these keywords can reflect the subject content of the webpage and may be used as the content summary of the webpage corresponding to the hyperlink.

For example, with the URL (http://www.sipo.gov.cn/zlsq/200804/t20080418_383686.html) as an example, by using the counting method above, it can be learned that the phrase with relatively high frequency of occurrence on the webpage is “Patent Application”. Therefore, the keyword “Patent Application” may be used as the content summary of the webpage corresponding to the hyperlink.

In practical applications, there are certainly many ways to acquire a content summary of a webpage corresponding to a hyperlink, which will not be described in detail herein. Nevertheless, any way capable of acquiring a content summary of a webpage corresponding to a hyperlink according to the prior art can be applied in embodiments of the present application and achieve the invention objective of embodiments of the present application.

It should be noted that, when the non-text information comprised in an instant message is a photo or an audio or video file, the photo or the audio or video file may or may not be a hyperlink.

When a photo or an audio or video file comprised in an instant message is a hyperlink, the server activates a browser to access the webpage on which the photo or the audio or video file is located, and acquire, according to the content of the webpage, a content summary corresponding to the photo or the audio or video file.

For example, assume that a current user transmits or receives a video clip in a chat window, and the video clip is from a video website. When the user clicks the video, the server activates a browser to open a webpage of the website where the video is located, and the webpage would typically comprise information like the display window of the video, the video title, the brief introduction of the video content, and the video uploading time. The server can directly acquire the video title on the video website as a content summary of the video file; or obtain a content summary of the video file by means of extracting keywords.

In practical applications, the photo or the audio or video file may certainly not be hyperlink information. For example, it is a photo or a video clip taken by a user using a client device. In this case, a server can push a message window of summary acquisition to the user and prompt the user to set a content summary for the non-text information. Moreover, it receives text information typed in by the user and uses the text information as a content summary of the non-text information.

For example, a current user receives or transmits a photo in an IM chat window. Determining that the photo is not hyperlink information, the server pushes a message window to the user and prompts the user to set a corresponding content summary for the photo. According to the content of the current photo, the user types in corresponding text

information as a content summary of the photo, and uploads the same to the server via the pushed message window. Upon receiving the text information typed in by the user, the server uses the text information as a content summary of the photo.

For hyperlink information, the above method may certainly be used to acquire a content summary of the hyperlink information.

For example, a user receives or transmits a hyperlink in an IM chat window. The server pushes a message window to the user and prompts the user to set a corresponding content summary for the hyperlink. According to the content of the webpage corresponding to the current hyperlink, the user types in corresponding text information as a content summary of the hyperlink, and uploads the same to the server via the pushed message window. Upon receiving the text information typed in by the user, the server uses the text information as a content summary of the hyperlink.

Step 203: the server saves the instant message, and saves the non-text information in the instant message as a data object comprising the non-text information and the content summary of the non-text information.

In the embodiment of the present application, therefore, the server no longer saves non-text information in the plain text form when the server saves an instant message comprising the non-text information. Instead, the server saves the non-text information as a data object. Since data object is a set of data elements having the same features, the data object can comprise contents in many aspects. In the embodiment of the present application, the data object can comprise the non-text information and the content summary of the non-text information.

The URL (http://www.sipo.gov.cn/zlsq/200804/t20080418_383686.html) is used as an example again. The content summary of the URL is “Patent Application”. When the URL is saved, the URL is saved as a data object. The data object not only comprises the URL itself, but also comprises the content summary (Patent Application) corresponding to the URL. When a user needs to acquire the URL from the chat records, the user does not need to provide the URL itself, but just needs to type all or a part of the content of “Patent Application” in a search box.

Another example is that a user transmits a video file, and the content summary of the video file is “birthday records”. When the video is saved, the video is saved as a data object, and the data object comprises the video file itself and the content summary (birthday records) of the video file. When a user needs to acquire the video file from the chat records, the user just needs to type all or a part of the content of “birthday records” in a search box.

Therefore, the method for saving IM chat records according to the embodiment of the present application saves non-text information transmitted or received in an IM chat window as a data object comprising the non-text information and the content summary of the non-text information. When a user needs to acquire the non-text information by searching the chat records, he/she just needs to type some words in the content summary of the non-text information into a search box. As a result, the function of searching non-text information in chat records is realized and the problem in the prior art is solved.

Furthermore, each data element in a data object can have different attributes. To achieve better user experience in actual applications, therefore, it is sometimes not desirable to display the content summary in the chat records. Consequently, the method according to the embodiment of the present application can further comprise: setting, in the data object, the display attribute of the non-text information to visible, and the display attribute of the content summary of the non-text information to invisible. With such a setting, when the chat records are opened, only the non-text information is displayed in the message records corresponding to the non-text information, while the content summary of the non-text information is not displayed. When the user types all or a part of the content of the content summary of the non-text information into a search box, however, he/she can still search and obtain the message records where the non-text information is located.

The URL (http://www.sipo.gov.cn/zlsq/200804/t20080418_383686.html) is used as an example again for description. When the URL is saved, the display attribute of the URL is set to visible, and the display attribute of the content summary (Patent Application) of the URL is set to invisible. When the chat records are opened, only the URL itself is displayed in the message records corresponding to the URL, while the content summary of the URL is not displayed. When the user types all or a part of the content of the “Patent Application” into a search box, however, he/she can still search and obtain the message records where the URL is located.

In another example, when a video file is saved, the display attribute of the video file is set to visible, and the display attribute of the content summary of the video file is set to invisible. When the chat records are opened, only the video file itself is displayed in the message records corresponding to the video file, while the content summary of the video file is not displayed. When the user types all or a part of the content of the content summary of the video file into a search box, however, he/she can still search and obtain the message records where the video file is located.

As a result, while the function of searching non-text information in instant messages is realized, the original look of the instant messages transmitted or received by a user at a chat window can still be maintained in the message records of the chat records, which enhances the user experience.

Corresponding to the embodiment of the method for saving IM chat records according to the present application, the present application further provides embodiments of a device and a server for saving IM chat records.

The embodiment of the device for saving IM chat records according to the present application can be applied on a server. The device embodiment may be implemented by means of software, or by means of hardware or a combination of software and hardware. With software implementation as an example, as a device in logic, it is formed by a processor of the apparatus where it is located reading computer program instructions in a non-volatile memory into a memory and executing the computer program instructions. From a hardware level, Fig. 3 illustrates a hardware structure of an apparatus in which the device for saving IM chat records according to the present application is disposed. In addition to the processor, memory, network interface, and non-volatile memory shown in Fig. 3, the apparatus in which the device is disposed according to the embodiment may further comprise, usually according to actual functions of the apparatus, other hardware. For example, a client device may comprise a camera, a touchscreen, and a communication assembly, and a server may comprise a forwarding chip for processing messages.

Refer to Fig. 4, which is a block diagram of an embodiment of the device for saving IM chat records according to the present application. The device for saving chat records can be applied on a server:

The device may comprise an acquisition unit 401 and a saving unit 402.

The acquisition unit 401 is configured to acquire, when an instant message transmitted or received by a current IM chat window comprises non-text information, a content summary of the non-text information.

The saving unit 402 is configured to save the instant message, and save the non-text information as a data object comprising the non-text information and the content summary of the non-text information.

In an optional implementation mode, the acquisition unit 401 may comprise: an activation sub-unit and a generation sub-unit.

The activation sub-unit is configured to activate, when the non-text information is a hyperlink, a browser to access the webpage corresponding to the hyperlink.

The generation sub-unit is configured to generate, according to the information of the webpage corresponding to the hyperlink, a content summary of the webpage corresponding to the hyperlink.

In an optional implementation mode, the generation sub-unit may comprise: a caption acquisition sub-unit and a keyword acquisition sub-unit.

The caption acquisition sub-unit is configured to acquire the caption information of the webpage corresponding to the hyperlink as the content summary of the webpage corresponding to the hyperlink.

The keyword acquisition sub-unit is configured to extract at least one keyword with relatively high frequency of occurrence from the information of the webpage corresponding to the hyperlink, and use the keyword as the content summary of the webpage corresponding to the hyperlink.

In an optional implementation mode, the acquisition unit 402 may comprise: a prompt sub-unit and a receiving sub-unit.

The prompt sub-unit is configured to prompt a user to set a content summary for the non-text information.

The receiving sub-unit is configured to receive text information typed in by the user and use the text information as a content summary of the non-text information.

In an optional implementation mode, the device may further comprise: a setting unit.

The setting unit is configured to set, in the data object, the display attribute of the non-text information to visible, and the display attribute of the content summary of the non-text information to invisible.

With respect to the implementation process of functions and roles of all units in the device above, see the implementation process of corresponding steps in the method above for details, which will not be repeated herein.

Since embodiments of the device substantially correspond to the embodiments of the method, reference can be made to the description of the relevant part of the embodiments of the method. The embodiments of the device described above are merely exemplary, wherein units described as separate parts may or may not be physically separated, and parts illustrated as units may or may not be physical units, namely they may be located at one place or may be distributed over a plurality of network units. Some or all of the modules may be selected, according to actual need, to achieve the goal of the present application, which can be understood and implemented by those skilled in the art without inventive effort.

The present application further provides a server, comprising a processor; and a memory for storing instructions executable by the processor; wherein the processor is configured to, when an instant message transmitted or received by an IM chat window comprises non-text information, acquire a content summary of the non-text information; save the instant message, and save the non-text information as a data object comprising the non-text information and the content summary of the non-text information.

In an embodiment of the present application, when an instant message transmitted or received by an IM chat window comprises non-text information, a content summary of the non-text information is acquired; the non-text information is saved as a data object, and the data object comprises the non-text information and the content summary of the non-text information. When a user needs to acquire the non-text information by searching the chat records, he/she just needs to type some words in the content summary of the non-text information into a search box. As a result, the function of searching non-text information in chat records is realized and the problem in the prior art is solved.

After considering the description and practicing the invention disclosed herein, those skilled in the art would easily arrive at other modes of implementation of the present application. The present application intends to encompass any variation, use or adaptive change of the present application, and these variations, uses or adaptive changes follow general principles of the present application and comprise common general knowledge or common technical means in the art that are not disclosed in the present application. The description and embodiments are merely exemplary, and the true scope and spirit of the present application are subject to the appended claims.

It should be understood that the present application is not limited to the precise structure described above and illustrated in the accompanying drawings, and moreover, various modifications and variations may be made without departing from its scope. The scope of the present application shall be subject only to the appended claims.

Claims

1. A method for saving IM chat records, wherein the method comprises processes carried out by a server comprising:

when an instant message input to an IM chat window of a client device and transmitted from the client device comprises non-text information, acquiring a content summary of the non-text information, wherein the content summary is searchable text; and

saving the instant message comprising the non-text information, the non-text information being saved as a data object comprising the non-text information and the content summary of the non-text information, and not as plain text information, with a display attribute of the content summary set to be invisible.

2. The method according to claim 1, wherein the acquiring a content summary of the non-text information comprises:

when the non-text information includes a hyperlink, activating a browser to access a webpage corresponding to the hyperlink; and

generating, according to information of the webpage corresponding to the hyperlink, a content summary of the webpage corresponding to the hyperlink.

3. The method according to claim 2, wherein the generating, according to the information of the webpage corresponding to the hyperlink, a content summary of the webpage corresponding to the hyperlink comprises:

acquiring caption information of the webpage corresponding to the hyperlink as the content summary of the webpage corresponding to the hyperlink;

or,

extracting at least one keyword with relatively high frequency of occurrence from the information of the webpage corresponding to the hyperlink, and using the keyword as the content summary of the webpage corresponding to the hyperlink.

4. The method according to claim 2, wherein the acquiring a content summary of the non-text information comprises:

when the non-text information includes no hyperlink, prompting a user to set a

content summary for the non-text information; and

receiving text information input by the user and using the text information as the content summary of the non-text information.

5. The method according to any one of claims 1 to 4, wherein the method further comprises:

setting, in the data object, a display attribute of the non-text information to visible.

6. A device for saving IM chat records, wherein the device comprises:

an acquisition unit configured to acquire, when an instant message input to an IM chat window of a client device and transmitted from the client device comprises non-text information, a content summary of the non-text information, wherein the content summary is searchable text; and

a saving unit configured to save the instant message comprising the non-text information, such that the non-text information is saved as a data object comprising the non-text information and the content summary of the non-text information, and not as plain text information, with a display attribute of the content summary set to be invisible.

7. The device for saving IM chat records according to claim 6, wherein the acquisition unit comprises:

an activation sub-unit configured to activate, when the non-text information includes a hyperlink, a browser to access a webpage corresponding to the hyperlink; and

a generation sub-unit configured to generate, according to information of the webpage corresponding to the hyperlink, a content summary of the webpage corresponding to the hyperlink.

8. The device for saving IM chat records according to claim 7, wherein the generation sub-unit comprises:

a caption acquisition sub-unit configured to acquire caption information of the webpage corresponding to the hyperlink as the content summary of the webpage corresponding to the hyperlink;

or,

a keyword acquisition sub-unit configured to extract at least one keyword with

relatively high frequency of occurrence from the information of the webpage corresponding to the hyperlink, and use the keyword as the content summary of the webpage corresponding to the hyperlink.

9. The device for saving IM chat records according to claim 7, wherein the acquisition unit comprises:

a prompt sub-unit configured to prompt a user to set a content summary for the non-text information, when the non-text information includes no hyperlink; and

a receiving sub-unit configured to receive text information input by the user and use the text information as the content summary of the non-text information.

10. The device for saving IM chat records according to any one of claims 6 to 9, wherein the device further comprises:

a setting unit configured to set, in the data object, a display attribute of the non-text information to visible.