



US 20070192413A1

(19) **United States**(12) **Patent Application Publication**  
**Murakami et al.**(10) **Pub. No.: US 2007/0192413 A1**(43) **Pub. Date: Aug. 16, 2007**(54) **CHAT SYSTEM, TERMINAL DEVICE  
THEREFOR, DISPLAY METHOD OF CHAT  
SYSTEM, AND RECORDING MEDIUM**(30) **Foreign Application Priority Data**

Sep. 30, 1996 (JP) ..... 8-259798

(75) Inventors: **Masahiko Murakami**, Kawasaki-shi  
(JP); **Masahiro Matsuda**, Kawasaki-shi  
(JP)**Publication Classification**(51) **Int. Cl.**  
**G06F 15/16** (2006.01)(52) **U.S. Cl.** ..... **709/204**

Correspondence Address:

**STAAS & HALSEY LLP****SUITE 700****1201 NEW YORK AVENUE, N.W.****WASHINGTON, DC 20005 (US)**(57) **ABSTRACT**(73) Assignee: **FUJITSU LIMITED**, Kawasaki-shi (JP)(21) Appl. No.: **11/783,405**(22) Filed: **Apr. 9, 2007****Related U.S. Application Data**(62) Division of application No. 10/066,691, filed on Feb.  
6, 2002, which is a division of application No.  
08/805,779, filed on Feb. 25, 1997, now Pat. No.  
6,370,563.

A chat system in which conversations by characters in plural channels are displayed, and of these conversations, a conversation in a main channel and conversations in other channels are displayed in individual regions **23, 24** on a display screen, and an inputted statement is displayed in an intermediate region **22** of the individual regions **23, 24**. The chat system hence realizes a display method having a notice function for use while working in an office, and information extracting function enabled by electronic expression of conversations, along with a recording medium used for execution thereof.

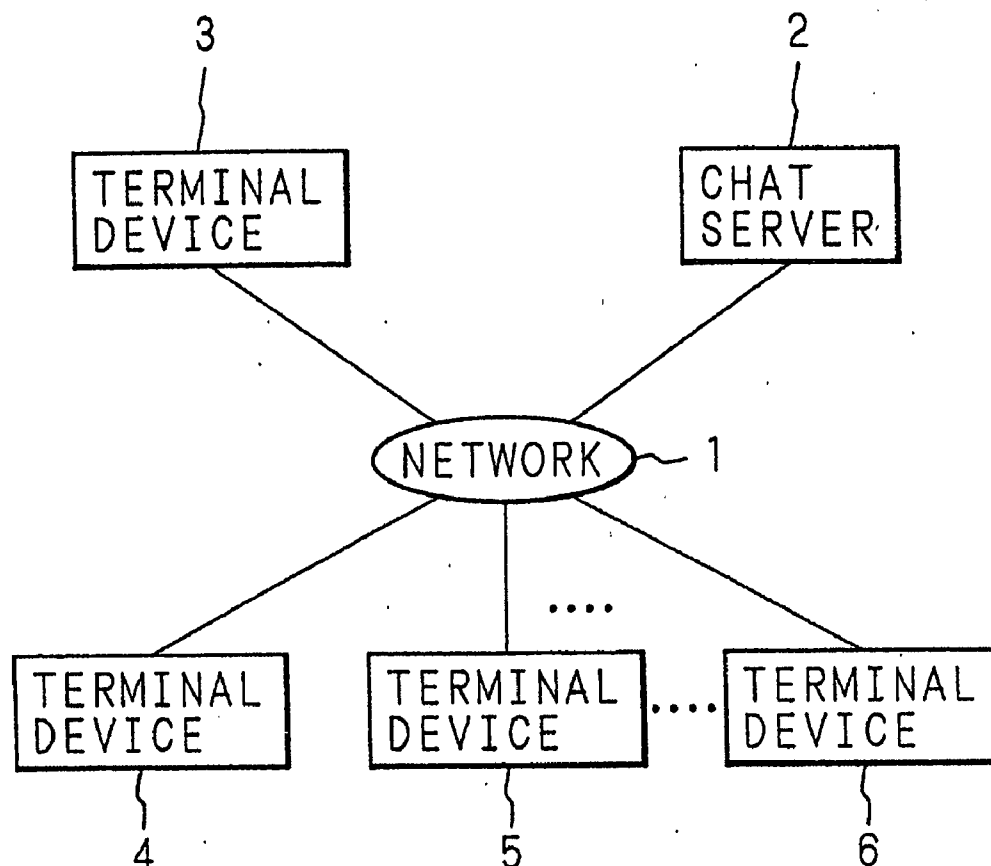


FIG. 1

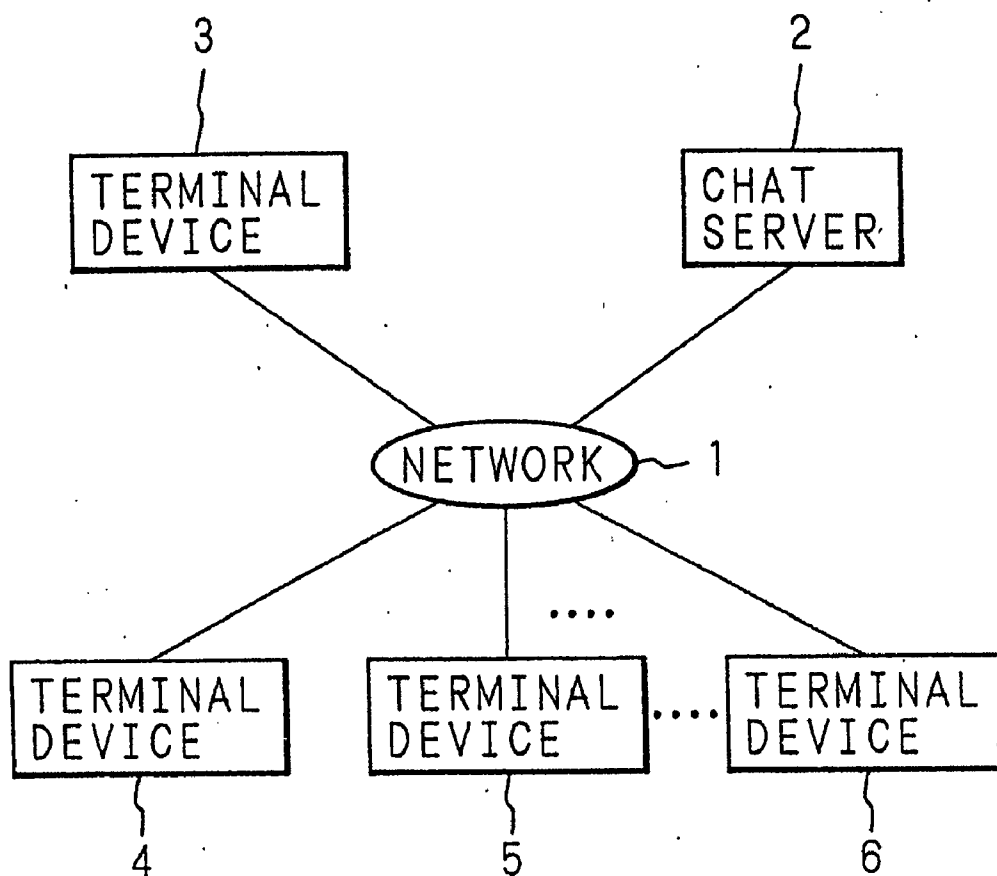


FIG. 2

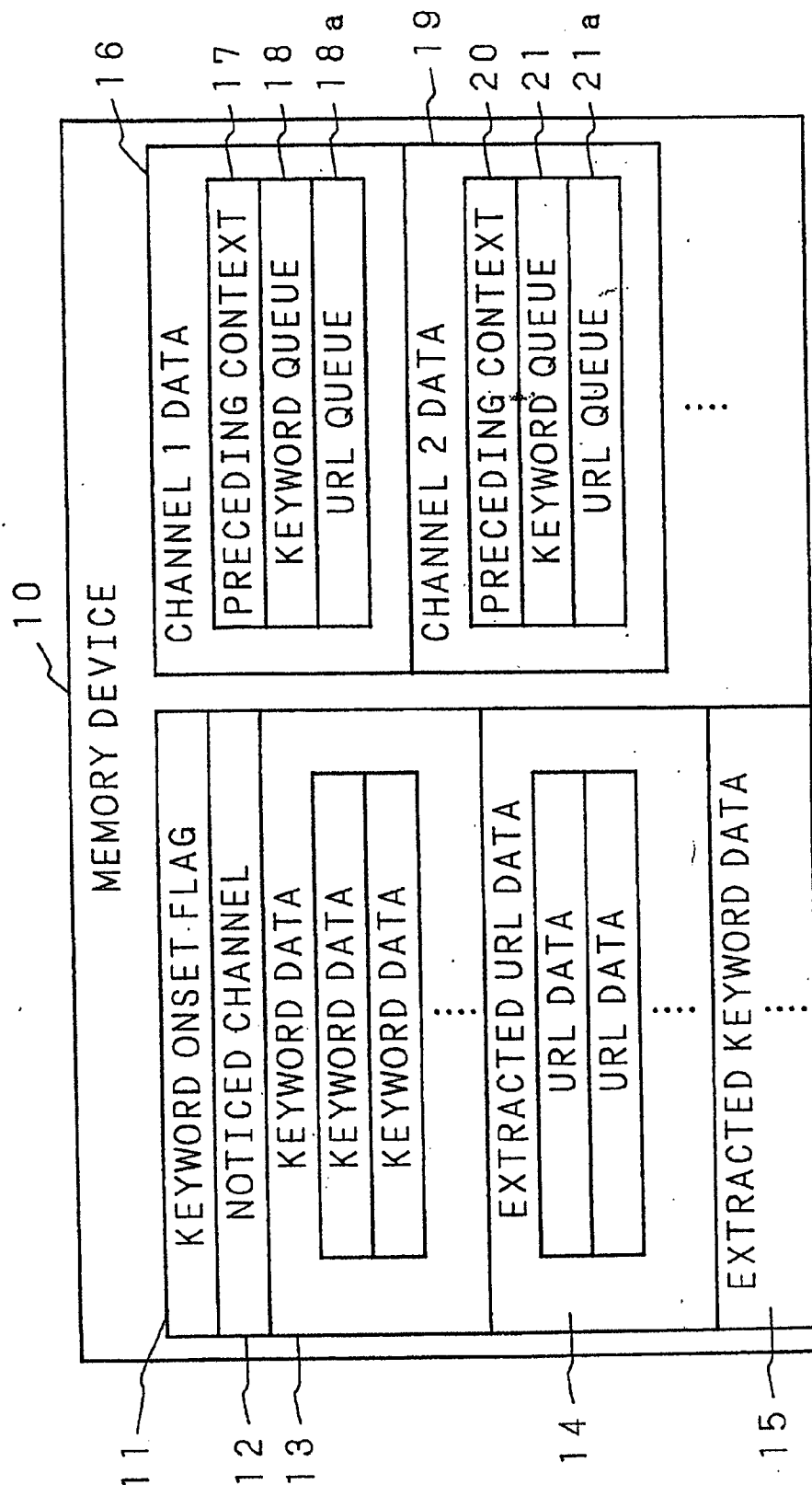


FIG. 3

COCOA - %DIST

FILE(F) EDIT(E) SETUP(P) CHANNEL(C) COMMAND(Q) URL(U) HELP(H)

%DIST
↑
URL
PAUSE

15:58 \*\*\* fukuZzz is known as fukuyama

16:13 <morimori> Where were you going?

16:14 <morimori> What do you want me for?>sakamocch

16:23 <sakamocch> Do you continue language study or not?/

Mr. Morinaga.

16:23 <morimori> Please, finish it.

16:24 <sakamocch> OK.

16:27 <morimori> Thank you.

Boyoyon

iwao

kakuta

kanai

kanai-2

makoto

morimori

MUL

MUL4

MUL5

oku

pine

yamatsumo8

COCOA

NUM

FIG. 4

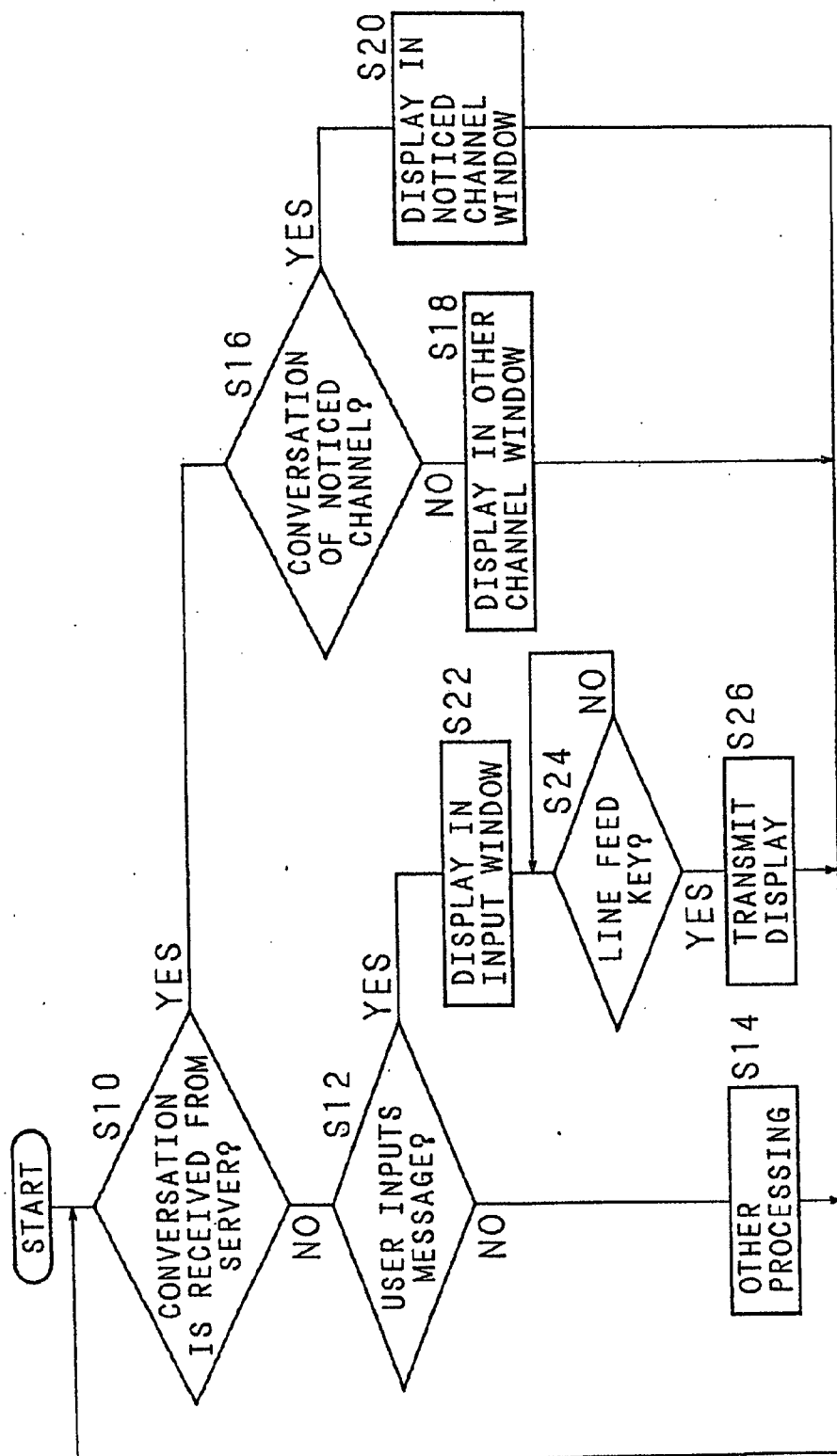


FIG. 5

COCOA - %DIST

25

FILE(F) EDIT(E) SETUP(P) CHANNEL(C) COMMAND(O) URL(U) HELP(H)

%DIST

15:58 xxx fukuZzz is known as fukuyama
↑

16:13 <morimori> Where were you going?
↑

16:14 <morimori> What do you want me for?>sakamocch
↑

16:23 <sakamocch> Do you continue language study or not?/
↑

Mr. Morinaga.
↑

16:23 <morimori> Please, finish it.
↑

16:24 <sakamocch> OK.
↑

16:27 <morimori> Thank you.
↑

17:39 <%INFO pine>Start up mul5200.
↑

17:38 <%INFO MUL> Wait for a while.
↑

17:37 <%INFO pine>I want to try it. >mul
↑

17:37 <%INFO MUL> I bought a new soft.
↑

Boyoyon
↓

iwao
↓

kakuta
↓

kanai
↓

kanai-2
↓

makoto
↓

morimori
↓

MUL
↓

MUL4
↓

MUL5
↓

oku
↓

pine
↓

yamatsumo8
↓

COCOA

NUM

23

22

24

FIG. 6

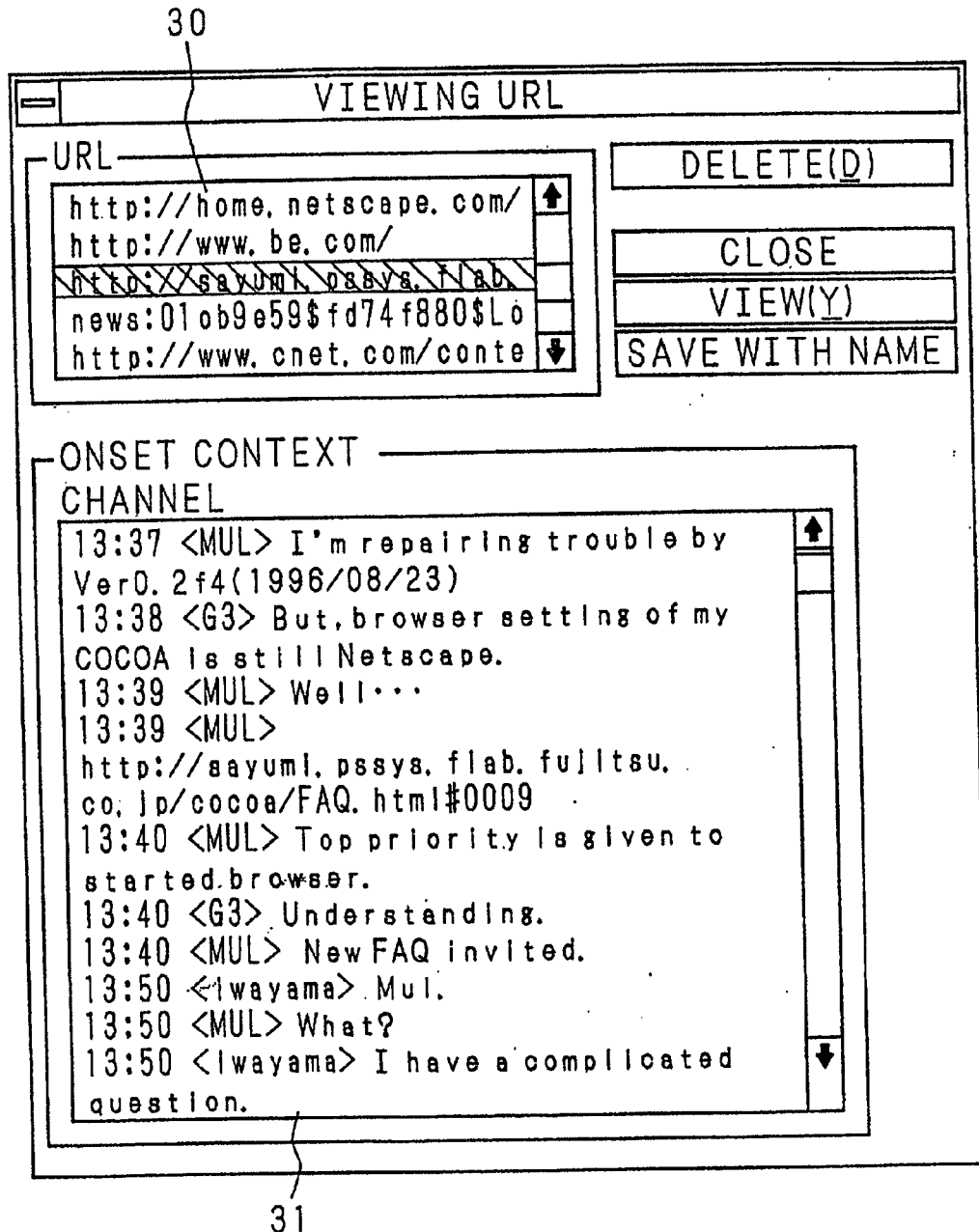


FIG. 7

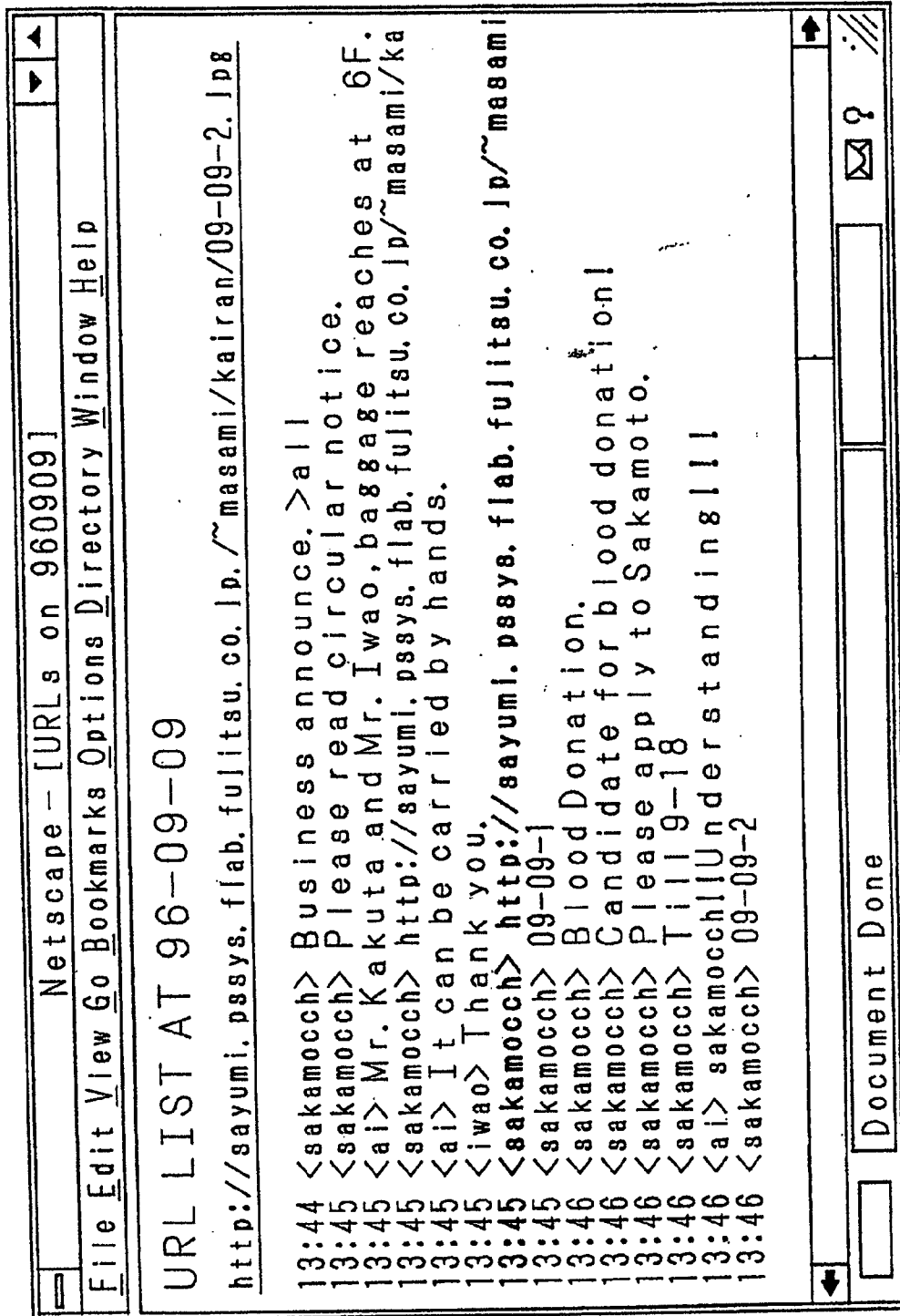




FIG. 8

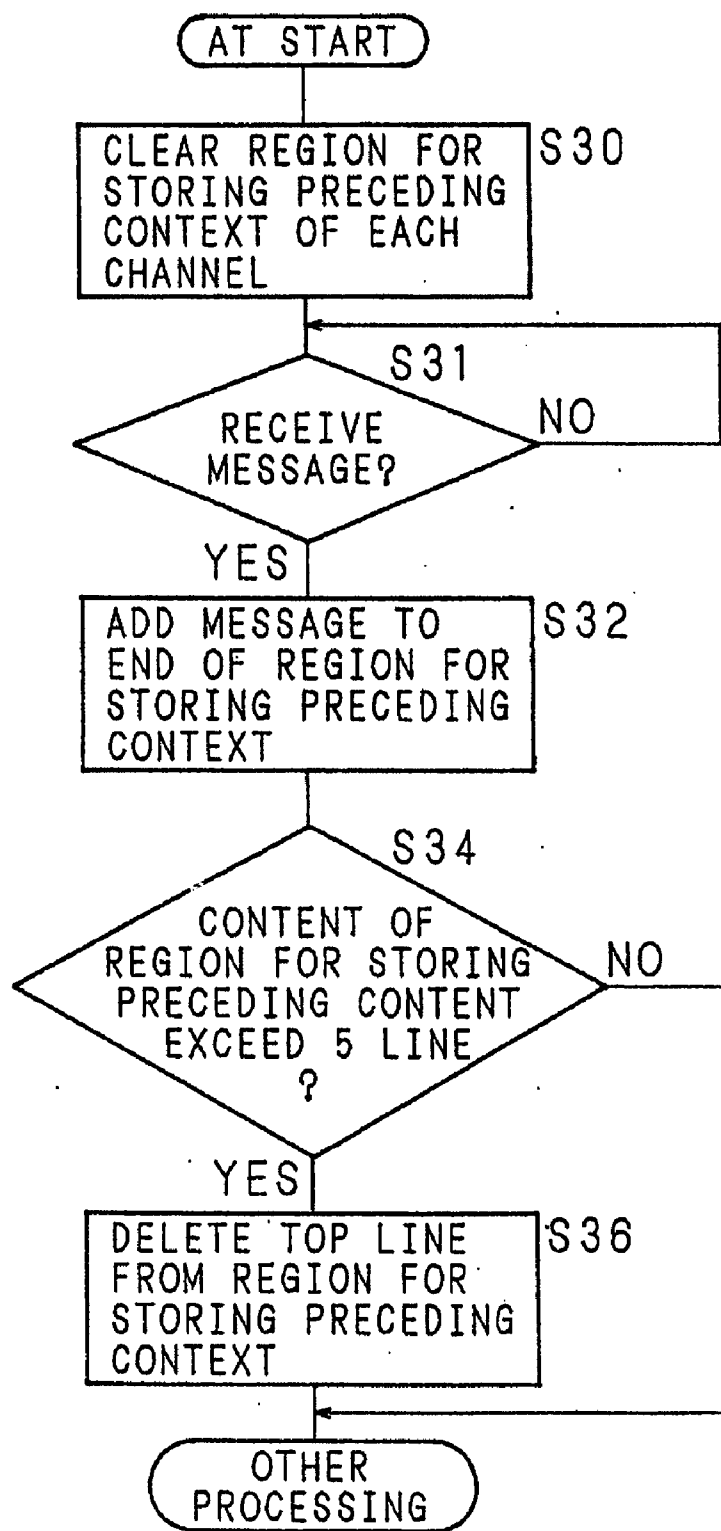


FIG. 9

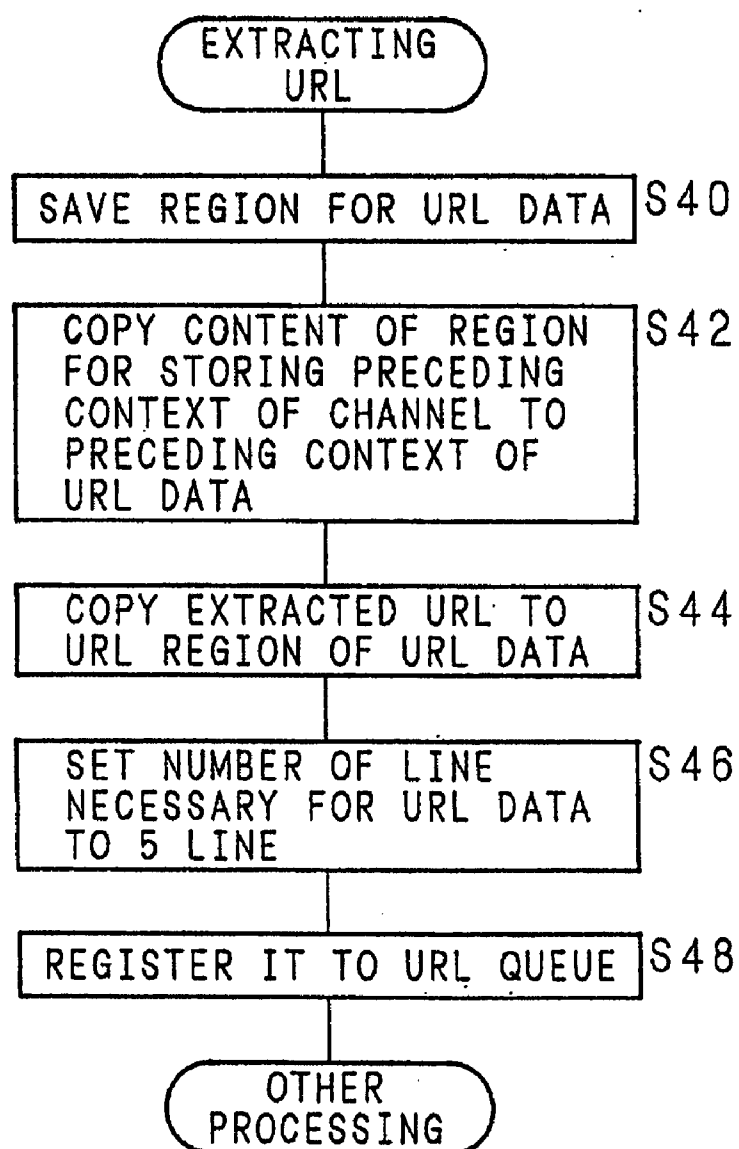


FIG. 10

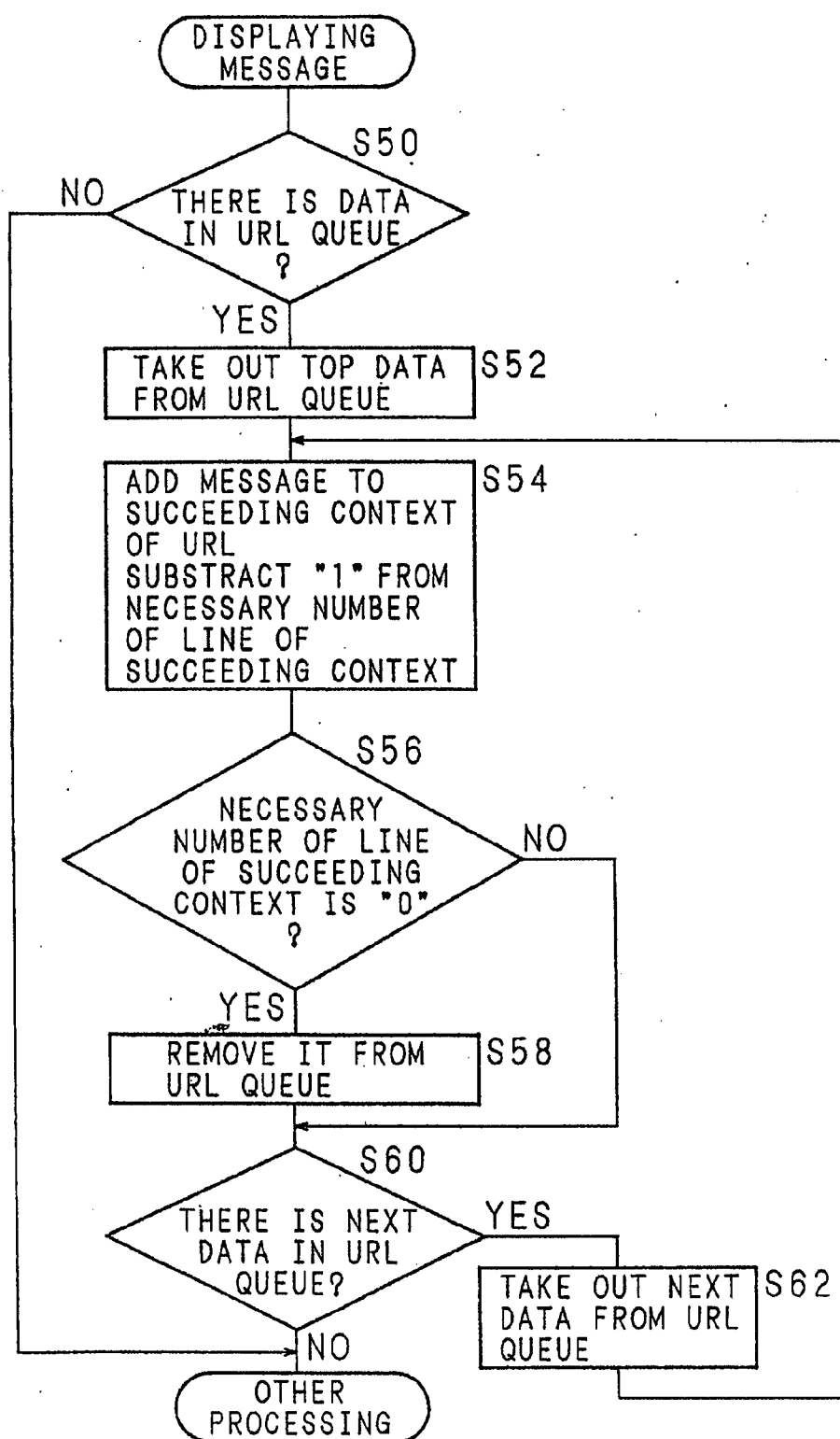


FIG. 11

**KEYWORD SETTING**

OPERATION AT KEYWORD ONSET

☒ BEEP

☒ USE WAVE FILE

C:\PHONE\BEEP.WAV REF.

☒ DISPLAY UPPERMOST

☒ RETURN USUAL SIZE AT ICON

☐ NOT SORT CAPITAL/SMALL LETTER

CHARACTER STORING AS KEYWORD

MUL  
MURAKAMI

OK CANCEL

40

41

FIG. 12

CONFIRMATION OF CALLED CONTEXT				
CHANNEL				
#cocoa				
<div>14:19 &lt;eto&gt; Is built-in modem 14:19 &lt;eto&gt; seemed as serial device. 14:19 &lt;eto&gt; Yes, so. 14:19 &lt;eto&gt; &gt;MUL 14:19 &lt;eto&gt; It's not slo[23] But com[34]. 14:19 &gt;MUL4&lt; Well 14:20 &gt;MUL4&lt; I See. 14:20 &lt;eto&gt; IDE connection is not ISA. 14:20 &gt;MUL4&lt; I have read it that report.</div>				
TO PAST	TO NOW	MAILING	CLOSE	DELETE

FIG. 13

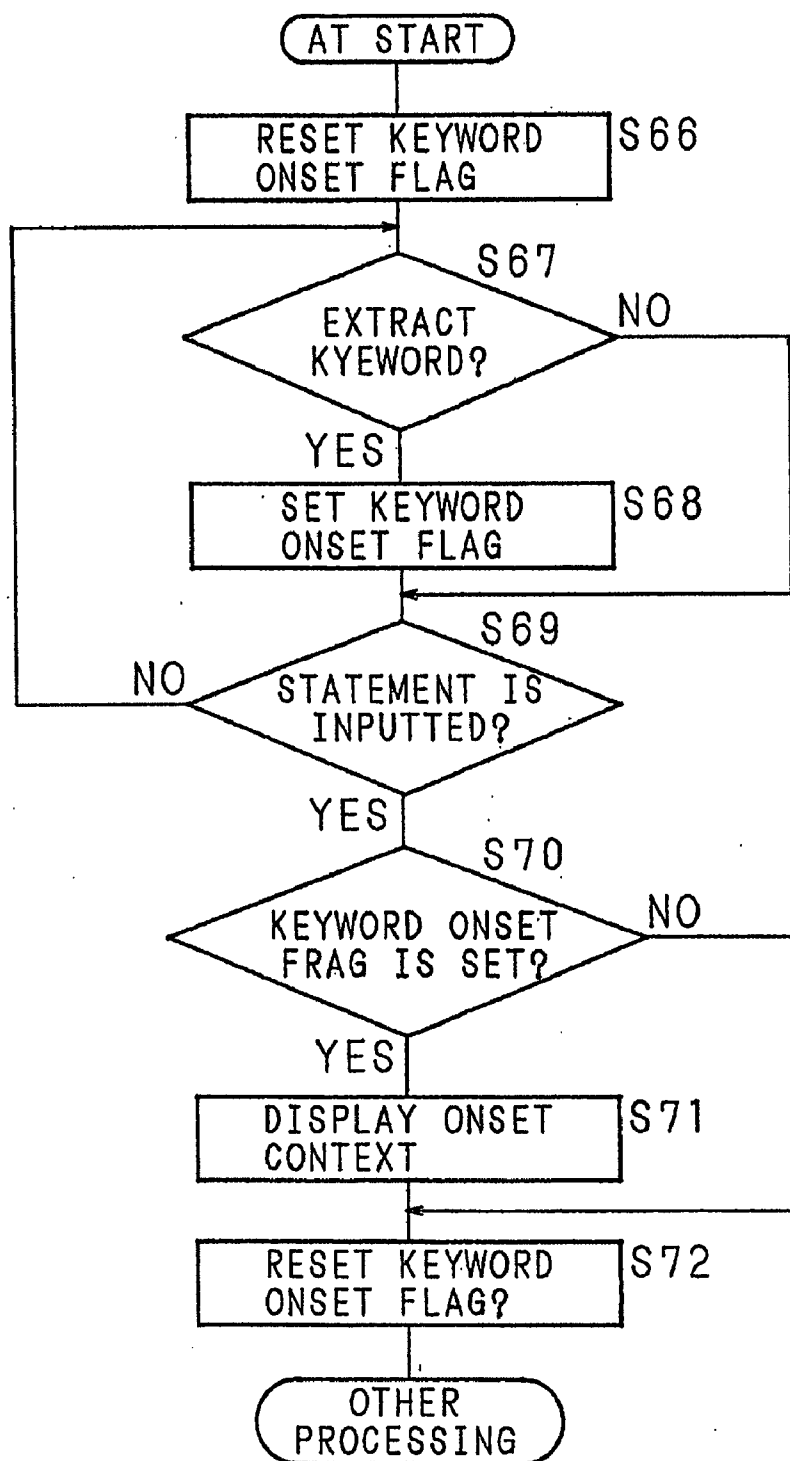


FIG. 14

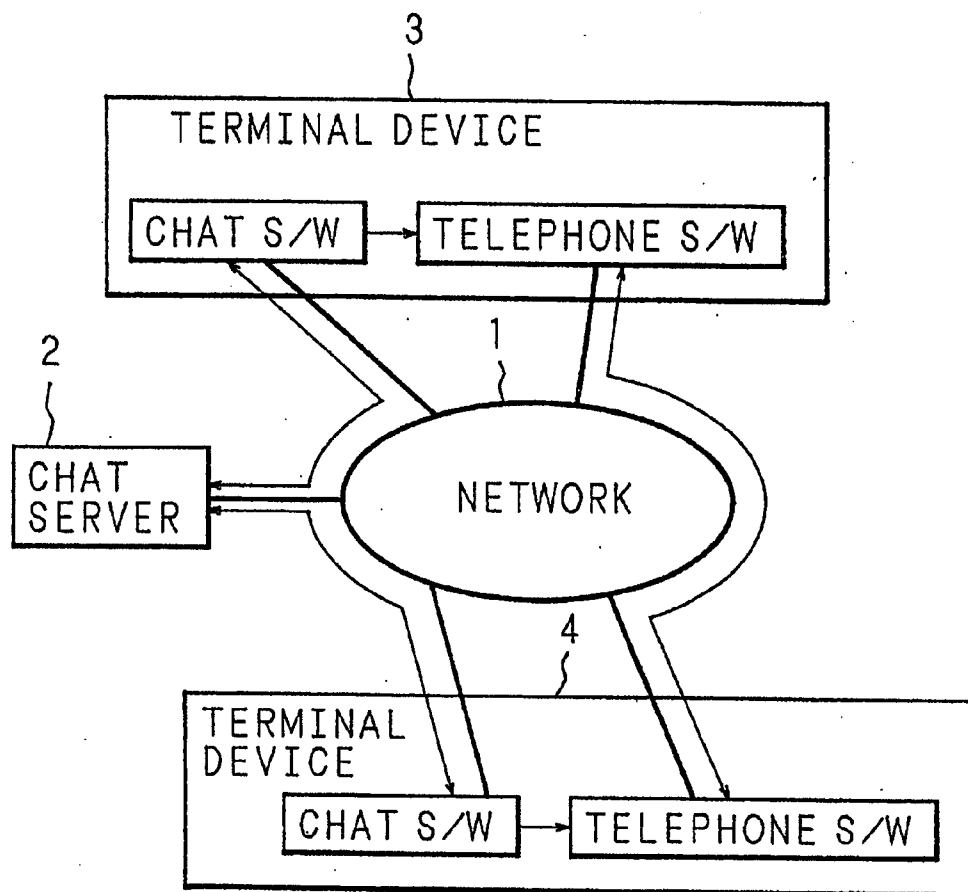


FIG. 15

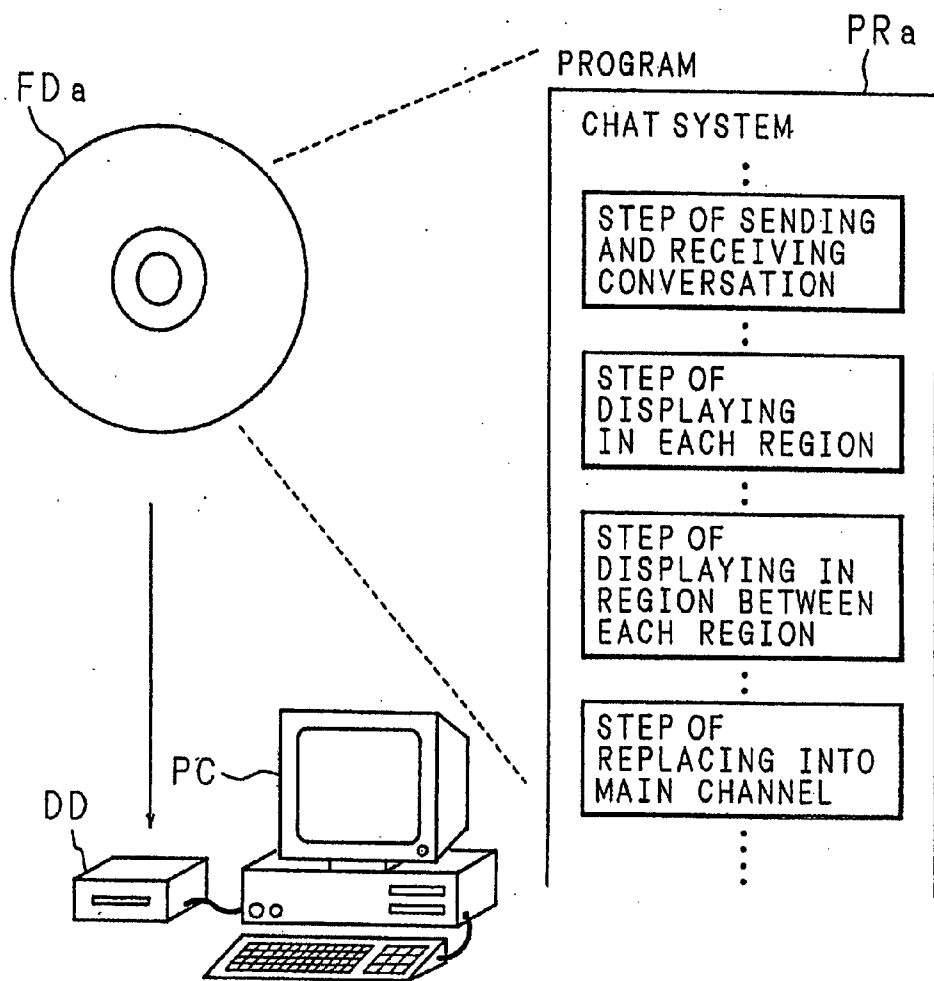




FIG. 16

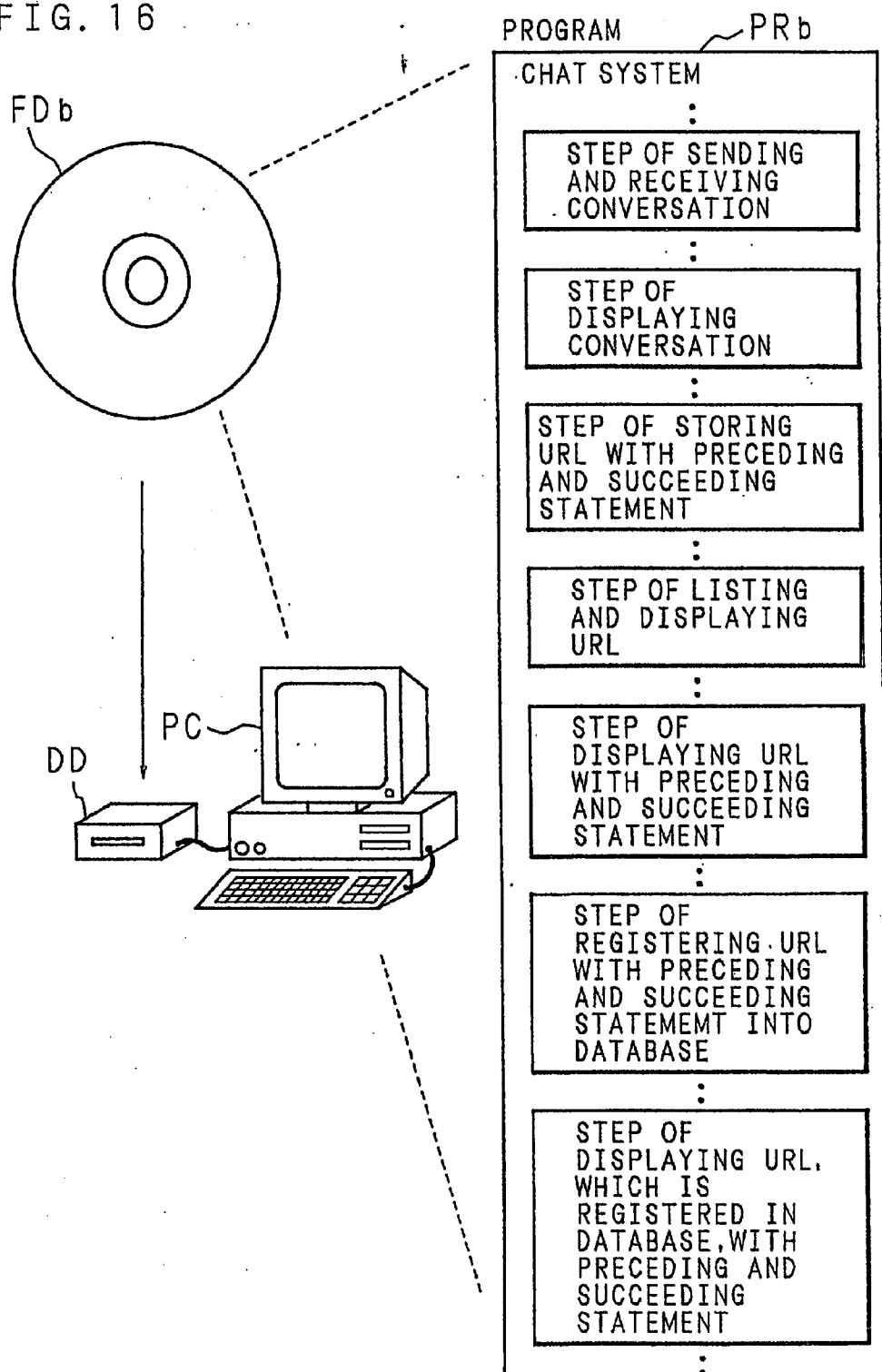


FIG. 17

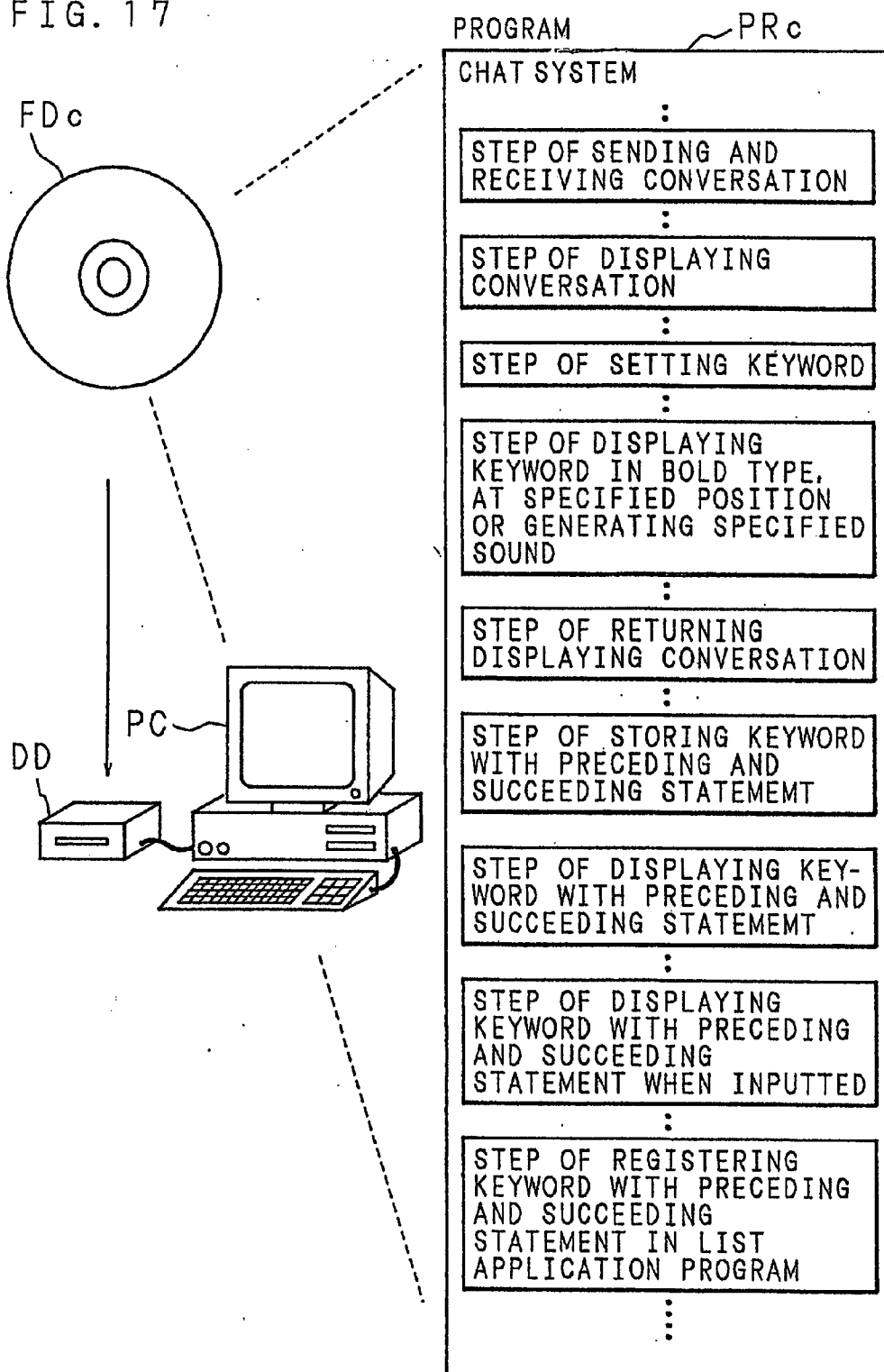
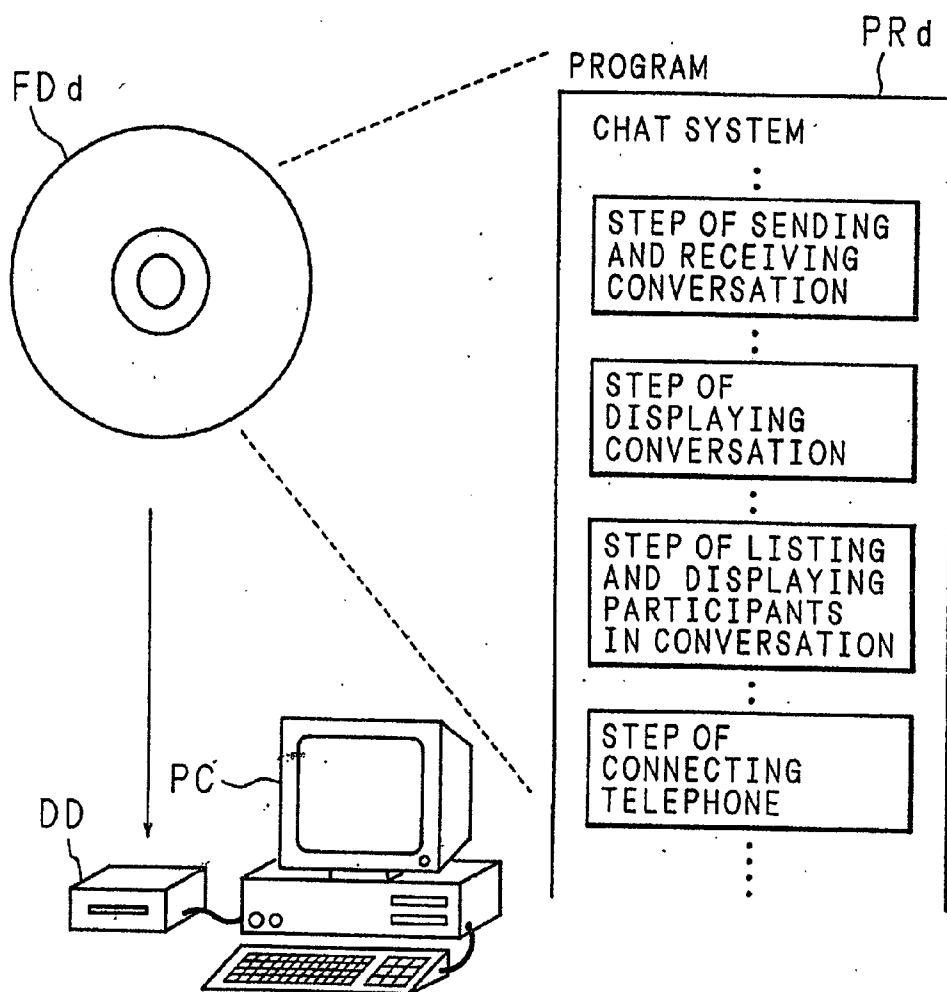


FIG. 18



**CHAT SYSTEM, TERMINAL DEVICE THEREFOR,  
DISPLAY METHOD OF CHAT SYSTEM, AND  
RECORDING MEDIUM**

**CROSS-REFERENCE TO RELATED  
APPLICATIONS**

[0001] This application is a divisional application of U.S. application Ser. No. 10/066,691, filed Feb. 6, 2002, now pending; which is a divisional application of U.S. application Ser. No. 08/805,779, filed Feb. 27, 1997, now U.S. Pat. No. 6,370,563; which claims priority to Japanese Application Number 8-259798, filed Sep. 30, 1996; the disclosures of which are herein incorporated in their entirety by reference.

**BACKGROUND OF THE INVENTION**

[0002] The present invention relates to a chat system for exchanging information between terminal devices of a computer system, a terminal device of the chat system, a display method of the chat system, and a recording medium used for execution thereof.

[0003] A conventional chat system for exchanging information between terminal devices is known. FIG. 1 is a block diagram showing a structural example of such chat system. In the chat system, a chat server 2 which is a host computer, and plural terminal devices 3 to 6 are connected through a network 1 of public circuits, and the chat server 2, when receiving messages from the terminal devices 3 to 6, transmits them immediately to other terminal devices 3 to 6, so that conversations by characters among operators who operate the individual terminal devices are realized.

[0004] In the chat system, the statement and the corresponding speaker's name are displayed in the terminal devices 3 to 6. Therefore, when plural statements are uttered simultaneously, the speakers are not confused, and the content of the statement is securely transmitted to other operators, so that opinions may be exchanged smoothly. Besides, the statements displayed in the terminal devices 3 to 6 can be directly saved as text data, and proceedings may be easily configured from the text data.

[0005] On the other hand, as seen in the recent boom of intranet, the electronic revolution of office is progressing rapidly, but little has been discussed so far about electronic handling of office conversations playing vital roles in collaborative works (exchange of information, greeting, etc.).

[0006] The conventional chat system (for example, the real-time meeting of IRC or Nifty) is based on exclusive engagement in the meeting, but for use in such office conversations, the system must be designed to be used while doing work. Yet, the conventional chat system does not make the best of electronic conversations.

**SUMMARY OF THE INVENTION**

[0007] The invention is devised in the light of the above situation, and it is an object thereof to present a display method of a chat system having a notice function for use while working in an office and an information extracting function enabled by electronic processing of conversations, and a recording medium for use in execution thereof.

[0008] A terminal device of a chat system according to a first aspect of the invention comprises means for displaying

conversations by characters in plural channels, and displaying, out of the conversations, the conversation in the main channel and conversations in other channels in individual regions of one display screen, and means for displaying an inputted statement in an intermediate region of the individual regions.

[0009] In the terminal device of above chat system, the conversation in the main channel and conversations in other channels are displayed in individual regions of one display screen, and the statement inputted from a local keyboard is displayed in an intermediate region of the individual regions of the main channel and other channels, so that the conversations in other channels can be viewed while chatting by paying attention to the conversation content of the presently speaking channel (main channel).

[0010] A chat system according to a second aspect of the invention comprises the terminal device of the chat system in the first aspect of the invention.

[0011] In this chat system, the terminal device displays the conversation in the main channel and conversations in other channels in individual regions of one display screen, and the statement inputted from a local keyboard is displayed in an intermediate region of the individual regions of the main channel and other channels, so that the conversations in other channels can be viewed while chatting by paying attention to the conversation content of the presently speaking channel (main channel).

[0012] A display method of a chat system according to a third aspect of the invention is characterized by displaying conversations by characters in plural channels, and displaying, out of the conversations, the conversation in the main channel and conversations in other channels in individual regions of one display screen, and displaying an inputted statement in an intermediate region of the individual regions.

[0013] In a display method of a chat system according to a fourth aspect of the invention, the conversation in the main channel and the conversations in other channels are displayed in a time series so that the latest statement may be displayed at the position closest to the intermediate region of the individual regions.

[0014] In a display method of a chat system according to a fifth aspect of the invention, other channel is replaced into a main channel when the statement of the corresponding channel in the region of the other channel is specified.

[0015] In a display method of a chat system according to a sixth aspect of the invention, URL (uniform resource locator) displayed in conversation is stored together with the statements for a specific number of lines before and after the URL, a list of URLs is displayed according to an instruction, and the selected URL is listed and displayed together with the statement.

[0016] In a display method of a chat system according to a seventh aspect of the invention, the stored URLs and the statements for a specific number of lines before and after the URLs are registered in a database, and are listed and displayed according to an instruction.

[0017] In a display method of a chat system according to an eighth aspect of the invention, a keyword is set, and when the keyword is displayed in display of a conversation, the

keyword is displayed in bold type or a specified sound is generated, and when the keyword is received while conversation is not displayed, the screen is returned to the conversation display, and the keyword is emphasized.

[0018] In a display method of a chat system according to a ninth aspect of the invention, the keywords are stored together with the statements for a specific number of lines before and after the keywords, and the keywords and the statements are listed and displayed according to an instruction.

[0019] In a display method of a chat system according to a tenth aspect of the invention, the keywords and the statements are listed and displayed at the end of conversation.

[0020] In a display method of a chat system according to an eleventh aspect of the invention, after storing the keyword, when the keyword is inputted, it is listed and displayed together with the statements.

[0021] In a display method of a chat system according to a twelfth aspect of the invention, at the end of the conversation, the keywords are registered together with the statements in a list application program provided outside, and are saved after end of the conversation.

[0022] In a display method of a chat system according to a thirteenth aspect of the invention, participants in the conversation are listed and displayed, and the telephone is connected to the selected participants.

[0023] A recording medium according to a fourteenth aspect of the invention records a computer program of a display method of a chat system comprising a step of sending and receiving conversations in plural channels, a step of displaying, out of the conversations in plural channels, the conversation in the main channel and conversations in other channels in individual regions of one display screen, and a step of displaying an inputted statement in an intermediate region of the individual regions.

[0024] In the display method of the chat system according to the third aspect of the invention and the computer system controlled by the program recorded in the recording medium according to the fourteenth aspect, the conversation in the main channel and conversations in other channels are displayed in individual regions of one display screen, and the statement inputted from a local keyboard is displayed in an intermediate region of the individual regions of the main channel and other channels, so that the conversations in other channels can be viewed while chatting by paying attention to the conversation content of the presently speaking channel (main channel).

[0025] In a recording medium according to a fifteenth aspect of the invention, the step of displaying the conversation in the main channel and the conversations in other channels in individual regions of one display screen, displays in a time series the latest statement at the position closest to the intermediate region of the individual regions.

[0026] In the display method of the chat system according to the fourth aspect of the invention and the computer system controlled by the program recorded in the recording medium according to the fifteenth aspect of the invention, the conversation in the main channel (the presently chatting channel) and conversations in other channels are displayed in a

time series so that the latest statement may be displayed at the position closest to the intermediate region of the individual regions of the main channel and other channels. Therefore, the conversation contents in the main channel and other channels can be reviewed from the latest one while chatting into the main channel.

[0027] A recording medium according to a sixteenth aspect of the invention comprises a step of replacing other channel with the main channel when the statement in the region of other channel is specified.

[0028] In the display method of the chat system according to the fifth aspect of the invention and the computer system controlled by the program recorded in the recording medium according to the sixteenth aspect of the invention, when the statement in the region of other channel is specified, this channel becomes the main channel. As a result, the operator can immediately participate in the conversation of interesting topic or curious subject.

[0029] A recording medium according to a seventeenth aspect of the invention records a computer program of a display method of a chat system comprising a step of sending and receiving conversations in plural channels, a step of displaying the conversations, a step of storing the URL displayed in the conversations together with the statements for a specific number of lines before and after the URL, a step of displaying a list of URLs according to an instruction, and a step of displaying a list of the selected URL together with the statement.

[0030] In the display method of the chat system according to the sixth aspect of the invention and the computer system controlled by the program recorded in the recording medium according to the seventeenth aspect of the invention, the URL displayed in conversation is stored together with the statements for a specific number of lines before and after it. According to an instruction from the operator, a list of URL is displayed, and the selected URL is listed and displayed together with the statements for a specific number of lines before and after it.

[0031] When a URL appears in conversation, it is often preceded or accompanied by an explanation (for example, this URL is interesting in this point, someone needed the information about something, etc.). Therefore, by extracting the context simultaneously with the character string of URL, important information can be picked up from the conversation. Furthermore, by registering it in the database, a useful information database accessible any time can be configured from ordinary conversations.

[0032] A recording medium according to an eighteenth aspect of the invention comprises a step of registering the stored URL and the statements for a specific number of lines before and after the URL in a database, and a step of displaying a list of registered URL and the statements for a specific number of lines before and after the URL according to an instruction.

[0033] In the display method of the chat system according to the seventh aspect of the invention and the computer system controlled by the program recorded in the recording medium according to the eighteenth aspect of the invention, the URL displayed in conversation is stored together with the statements for a specific number of lines before and after it, and the stored URL and the statements for a specific

number of lines before and after it are registered in the database. According to an instruction from the operator, a list of URL is displayed together with the statements for a specific number of lines before and after it.

[0034] When a URL appears in conversation, it is often preceded or accompanied by an explanation (for example, this URL is interesting in this point, someone needed the information about something, etc.). Therefore, by registering in the database, a useful information database accessible any time can be configured from ordinary conversations.

[0035] A recording medium according to a nineteenth aspect of the invention records a computer program of a display method of a chat system comprising a step of sending and receiving conversations in plural channels, a step of displaying the conversations, a step of setting a keyword, a step of displaying the keyword in bold type or generating a specified sound when the keyword is displayed during display of the conversation, and a step of returning to the display of conversation when the keyword is received while conversation is not displayed.

[0036] In the display method of the chat system according to the eighth aspect of the invention and the computer system controlled by the program recorded in the recording medium according to the nineteenth aspect of the invention, by setting a keyword, when the keyword is displayed during display of conversation, the keyword is displayed in bold type or specified sound is generated to emphasize the keyword. When the keyword is received while conversation is not displayed, the display of conversation is returned to emphasize the keyword.

[0037] Accordingly, the operator, by setting, for example, the own name as the keyword, can reply immediately when his (her) name is called if not exclusively engaged in the conversation, and therefore can do other work at ease. At the same time, the calling side also feels at ease that the partner will respond when his (her) name is called, so that the participants can speak at ease if not exclusively engaged in the conversation.

[0038] A recording medium according to a twentieth aspect of the invention includes a step of storing the keyword together with the statements for a specific number of lines before and after the keyword.

[0039] In the display method of the chat system according to the ninth aspect of the invention and the computer system controlled by the program recorded in the recording medium according to the twentieth aspect of the invention, by setting a keyword, when the keyword is displayed during display of conversation, the keyword is stored together with the statements for a specific number of lines before after it. According to an instruction from the operator, the keyword is listed and displayed together with the statements for a specific number of lines before and after it.

[0040] Accordingly, the operator, by setting, for example, the own name as the keyword, can reply immediately and confirm the context, too, when his (her) name is called if not exclusively engaged in the conversation, and therefore can do other work at ease. At the same time, the calling side also feels at ease that the partner will respond if the name is called, so that the participants can speak at ease if not exclusively engaged in the conversation.

[0041] A recording medium according to a twenty-first aspect of the invention includes a step of listing and displaying the keyword together with the statement at the end of the conversation.

[0042] In the display method of the chat system according to the tenth aspect of the invention and the computer system controlled by the program recorded in the recording medium according to the twenty-first aspect of the invention, by setting a keyword, when the keyword is displayed during display of conversation, the keyword is stored together with the statements for a specific number of lines before after it. At the end of the conversation, the keyword is listed and displayed together with the statements for a specific number of lines before after it.

[0043] Accordingly, the operator, by setting, for example, the own name as the keyword, can review for which reasons he is called during the day and check for works left undone.

[0044] A recording medium according to a twenty-second aspect of the invention includes a step of listing and displaying the keyword together with the statement, when the keyword is inputted, after a step of storing the keyword together with the statement for a specific number of lines before and after the keyword.

[0045] In the display method of the chat system according to the eleventh aspect of the invention and the computer system controlled by the program recorded in the recording medium according to the twenty-second aspect of the invention, by setting a keyword, when the keyword is displayed during display of conversation, the keyword is stored together with the statements for a specific number of lines before after it. By input from a local keyboard, when the operator speaks, the keyword is listed and displayed together with the statements for a specific number of lines before after it.

[0046] Accordingly, the operator, by setting, for example, the own name as the keyword, can return to the terminal device when his (her) name is called while staying away from the terminal device, and immediately confirm the calling of the name and its context.

[0047] A recording medium according to a twenty-third aspect of the invention includes a step of registering the keyword together with the statement in a list application program provided outside at the end of conversation.

[0048] In the display method of the chat system according to the twelfth aspect of the invention and the computer system controlled by the program recorded in the recording medium according to the twenty-third aspect of the invention, by setting a keyword, when the keyword is displayed during display of conversation, the keyword is stored together with the statements for a specific number of lines before after it. At the end of conversation, the keyword is registered together with the statements for a specific number of lines before and after it in a list application program provided outside, and is saved after conversation.

[0049] Accordingly, the operator, by setting, for example, the own name as the keyword, can review for which reasons he has been called, save the record, and check for works left undone.

[0050] A recording medium according to a twenty-fourth aspect of the invention records a computer program of a

display method of a chat system including a step of sending and receiving conversations in plural channels, a step of displaying the conversations, a step of listing and displaying participants in the conversations, and a step of connecting the selected participants by telephone.

[0051] In the display method of the chat system according to the thirteenth aspect of the invention and the computer system controlled by the program recorded in the recording medium according to the twenty-fourth aspect of the invention, by listing and displaying the participants in the conversations and connecting the participants selected by the operator by telephone, the operator can connect by telephone by easy operation when wishing to speak directly person to person during conversation.

[0052] The above and further objects and features of the invention will more fully be apparent from the following detailed description with the accompanying drawings.

#### BRIEF DESCRIPTION OF THE DRAWINGS

[0053] FIG. 1 is a block diagram showing a structural example of an embodiment of a chat system of the invention;

[0054] FIG. 2 is a block diagram showing a construction of a memory device of a terminal device for executing a display method of a chat system of the invention;

[0055] FIG. 3 is an explanatory diagram showing a display screen according to the display method of chat system in third and fifth aspects of the invention;

[0056] FIG. 4 is a flowchart showing operation of the terminal device for executing the display method of chat system in third and fifth aspects of the invention;

[0057] FIG. 5 is an explanatory diagram showing a display screen according to the display method of chat system in a fourth aspect of the invention;

[0058] FIG. 6 is an explanatory diagram showing a screen for displaying a list of URL and a list of conversations for a specific number of lines before and after a selected URL according to the display method of chat system in a sixth aspect of the invention;

[0059] FIG. 7 is an explanatory diagram showing a display screen according to the display method of chat system in a seventh aspect of the invention;

[0060] FIG. 8 is a flowchart showing operation of the terminal device for executing the display method of chat system in sixth and seventh aspects of the invention;

[0061] FIG. 9 is a flowchart showing operation of the terminal device for executing the display method of chat system in sixth and seventh aspects of the invention;

[0062] FIG. 10 is a flowchart showing operation of the terminal device for executing the display method of chat system in sixth and seventh aspects of the invention;

[0063] FIG. 11 is an explanatory diagram showing screen for keyword setting according to the display method of chat system in eighth to twelfth aspects of the invention;

[0064] FIG. 12 is an explanatory diagram showing screen for displaying extracted preceding context, keyword and succeeding context according to the display method of chat system in ninth and eleventh aspects of the invention;

[0065] FIG. 13 is a flowchart showing operation of the terminal device for executing the display method of chat system in the eleventh aspect of the invention;

[0066] FIG. 14 is a conceptual diagram showing the concept of display method of chat system in a thirteenth aspect of the invention;

[0067] FIG. 15 is an explanatory diagram showing construction of an embodiment of a recording medium in fourteenth to sixteenth aspects of the invention;

[0068] FIG. 16 is an explanatory diagram showing construction of an embodiment of a recording medium in seventeenth and eighteenth aspects of the invention;

[0069] FIG. 17 is an explanatory diagram showing construction of an embodiment of a recording medium in nineteenth to twenty-third aspects of the invention; and

[0070] FIG. 18 is an explanatory diagram showing construction of an embodiment of a recording medium in a twenty-fourth aspect of the invention.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0071] Referring now to the drawings, some of the preferred embodiments of the invention are described in detail below.

[0072] FIG. 1 is a block diagram showing a structural example of a chat system according to the invention. This chat system is intended to realize conversation by characters between operators who operate the individual terminal devices, by connecting a chat server 2 which is a host computer, and plural terminal devices (for example, personal computers) 3 to 6 according to the invention through a network 1 of public circuits, and sending the message received in the chat server 1 from the terminal devices 3 to 6 immediately to other terminal devices.

[0073] In the chat system, the statement and the corresponding speaker's name are displayed in the terminal devices 3 to 6, and therefore, when plural statements are uttered simultaneously, the speakers are not confused.

[0074] FIG. 2 is a block diagram showing a construction of a memory device 10 of a terminal device for executing the display method of the chat system according to the present invention. This memory device 10 includes a region 12 for storing the channel being noticed at the present (main channel), a keyword onset flag 11 used from the onset of a keyword and inputted from a local keyboard until display of the keyword together with the preceding and succeeding context (tenth aspect), a region 13 for storing keyword data composed of a set keyword character string and action when the keyword is received and displayed (seventh aspect), and a region 15 for storing the extracted keyword character string and statement for a specific number of lines before and after it (eighth to eleventh aspects).

[0075] The memory device 10 further includes a region 14 for storing the extracted URL (Uniform Resource Locator) character string and statement for a specific number of lines before and after it (sixth aspect), and regions 16, 19, etc., which are for storing data in each one of plural channels.

[0076] The regions 16, 19 for storing data in every channel are respectively regions of channels 1 and 2, each composed

of preceding context storing regions **17**, **20** (sixth, eighth to eleventh aspects) for storing the preceding context (latest statement) for a specific number of lines, keyword queues (first-in, first-out or FIFO lists) **18**, **21** (eighth to eleventh aspects) for registering the succeeding context for a specific number of lines of keyword, and URL queues **18a**, **21a** (sixth aspect) for registering the succeeding context for a specific number of lines of URL, and the memory device **10**, similarly hereinafter, includes a required number of regions.

[0077] FIG. 3 is an explanatory diagram for showing the display screen of the terminal device of the chat system in the first aspect, and the display screen in the display method of chat system according to the third and fifth aspects. This display screen has a region **23** for displaying the conversation in the channel (main channel) being noticed at the present in the upper portion, a region **24** for displaying conversations in other channels in the lower portion, and a region **22** for displaying the statement inputted from a local keyboard in the middle enclosed by the regions **23**, **24**, and further includes a region **25** for listing and displaying the names of participants in the conversations in the channel being noticed at the present and other channels at the right end portion.

[0078] In the region **23** for displaying the conversation in the channel being noticed at the present, each statement is composed of the speech time (e.g. 16:23), speaker's name (handle name) (that is, nickname, e.g. morimori), and content of speech (e.g. please finish it), and it is displayed in the sequence of utterance.

[0079] In the region **24** for displaying the conversations in other channels, when there are plural other channels, regardless of the speaking channels, statements are displayed in the sequence of speech. Each statement is composed of the speech time, speaking channel name (e.g. %INFO), speaker's name (nickname, e.g. MUL), and content of speech (e.g. wait for a while), and it is displayed in the sequence of utterance.

[0080] FIG. 4 is a flowchart showing operation of the terminal device of the chat system in the first aspect and the terminal device for executing the display method of the chat system in the third and fifth aspect. When a conversation (statement) is received from the chat server (Step S10, YES), the terminal device displays (Step S20) the conversation in the window (region) **23** of the channel being noticed when the conversation corresponds to speech in that channel (Step S16, YES), and returns. When the conversation is not speech in the channel being noticed (Step S16, NO), the terminal device displays (Step S18) the conversation in the window (region) **24** for other channels, and returns.

[0081] The statement transmitted from the chat server consists of the speaker's name (nickname), speaking channel name, and content of speech. When, for example, the statement includes "mul privmsg#cocoa good afternoon", it is composed of "mul: speaker's name", "privmsg: command showing conversation", and "#cocoa: destination name".

[0082] When conversation (statement) from that chat server is not received (Step S10, NO), and the user (operator) inputs a message (statement) from a local keyboard (Step S12, YES), the terminal device displays the message in the input window (region of displaying inputted statement) **22** (Step S12), and when the line feed key is operated

(Step S24, YES), it transmits the message, displays (Step S26) the conversation in the window **23** in the channel being noticed, and returns.

[0083] When the user does not input a message from the local keyboard (Step S12, NO), the terminal device performs other processes (Step S14) and returns.

[0084] The terminal device, when the conversation (statement) displayed in the window **24** of other channel is double-clicked by a pointing device such as mouse (not shown), displays the conversation in the channel in the window **24** of the channel being noticed, regarding the channel to which the conversation belongs as the channel being noticed. The conversation of the channel hitherto displayed in the window **23** is displayed in the window **24** in a time series (if there are other channels, including the conversations therein) (fifth aspect).

[0085] In this case, the conversation displayed in the window **24** of other channel is displayed in a format of the channel name, speaker's name, and content of speech, for example, "<%INFO: MUL>wait for a while", that is, "<channel name: speaker's nickname>content of speech", and the terminal device acquires the content of the line from the window **24** when the user clicks this conversation. The terminal device recognizes the portion between "<" and ":" as the channel name, and changes the channel being noticed to this channel.

[0086] Alternatively, the operation may be as follows.

[0087] The terminal device has a correspondence table of each line of window **24** of other channel and speaking channels provided in the memory device. This correspondence table is updated as follows.

[0088] 1. The correspondence table is cleared when starting up.

[0089] 2. The message is displayed in the unit of one line in the window **24** of other channel.

[0090] 3. When displaying the message in the window **24** of other channel, the channel name is added to the end of the correspondence table.

[0091] 4. As a result of 1, 2, 3, the channel name corresponding to the message in each line is stored in the correspondence table.

[0092] When the user double-clicks the window **24** of other channel, the terminal device acquires the double-clicked line (line number) from the window **24**. Searching the correspondence table by using the line number, the channel name corresponding to the line number is acquired. The acquired channel number is the channel being noticed.

[0093] FIG. 5 is an explanatory diagram showing the display screen of the display method of chat system according to a fourth aspect. In this display screen, the conversation displayed in the region **24** displaying conversations in the other channels is displayed downward in the sequence of utterance, and the latest statement is displayed in the position closest to the region **22** for displaying the inputted speech. The other display method and operation of the terminal device are same as in the embodiment of the display method of the chat system according to the third and fifth embodiments, and its explanation is omitted.



[0094] FIG. 6 is an explanatory diagram showing a screen for displaying a list of URL and a list of conversation (statement) for a specific number of lines before and after a selected URL. In this screen, a URL list **30** extracted from the screen in FIG. 3 is disposed in the upper portion, and a conversation (statement) list **31** for a specific number of lines before and after the URL selected in the URL list **30** is disposed in the lower portion. This screen is displayed as the URL (U) is selected from the menu in the screen shown in FIG. 3.

[0095] FIG. 7 is an explanatory diagram showing the display screen for displaying the URL registered in the database and a list of conversation (statement) for a specific number of lines before and after it, according to the display method of chat system of a seventh aspect. In this screen, the display is made in the daily unit.

[0096] FIG. 8 to FIG. 10 are flowcharts showing the operation of the terminal device for executing the display method of the chat system of the sixth and seventh aspects. The terminal device clears (Step S30) the preceding context storage regions **17**, **20** (FIG. 2) of each channel when starting up.

[0097] The terminal device, every time receiving the message (conversation) (Step S31), adds (Step S32) the message to the end of the preceding context storage region of the channel. When the message stored in the preceding context storage region exceeds, for example, five lines (Step S34, YES), the first one line of the preceding context storage region is deleted (Step S36), so that the stored message may not exceed five lines.

[0098] As illustrated in FIG. 9, when extracting the URL displayed on the screen, the terminal device saves (Step S40) the region of the displayed URL portion in the region **14** (FIG. 2) of the extracted URL data. Next, the content of the preceding context storage region of the channel in which the URL is displayed is copied (Step S42) in the region saved at step S40 as the preceding context of URL. The extracted URL is copied (Step S44) in the region saved at Step S40.

[0099] Next, the number of lines of the succeeding context required for the URL data is set, for example, at five lines (Step S46), and registered in URL queues **18a**, **21a** of the channel (Step S48).

[0100] As illustrated in FIG. 10, every time the message (conversation) is displayed on the screen, the terminal device checks (Step S50) whether there is data in the URL queue of the channel of the message or not, and if there is data (Step S50, YES), the top data is taken out (Step S52).

[0101] The message is added in the region saved at Step S40 as the succeeding context of the URL data, and "1" is subtracted (Step S54) from the data taken out at Step S52.

[0102] Consequently, when the data after subtracting "1" at Step S54 is "0" (Step S56, YES), it is removed from the URL queue (Step S58), and the URL queue is checked for presence or absence of next data (Step S60). When the data after subtracting "1" at Step S54 is not "0" (Step S56, NO), the URL queue is immediately checked for presence or absence of next data (Step S60).

[0103] When there is next data in the URL queue (Step S60, YES), the data is taken out (Step S62), and the next message is added in the region saved at Step S40 as the

succeeding data of URL data, and "1" is subtracted from the data taken out at Step S62 (Step S54). Similarly, thereafter, the data is added until the succeeding context reaches five lines.

[0104] In this way, since the URL queues is a first-in first-out list, when the URL is displayed in the screen within an interval of five lines, the succeeding context for five lines can be kept for each URL.

[0105] FIG. 11 is an explanatory diagram showing the screen for setting a keyword according to the display method of the chat system of eighth to twelfth aspects. In this screen, a keyword (or keywords) is set in a lower region **41**, and when the set keyword is displayed in the conversation display screen shown in FIG. 3 or sent from the chat server, the action is set in an upper region **40** (for example, beeping, shown in front screen (display in bold type), or returning to ordinary size in the case of an icon (returning to the conversation display screen shown in FIG. 3)).

[0106] The set data is stored in the keyword data storage region **13** (FIG. 2) as keyword data.

[0107] The terminal device for executing the display method of the chat system according to the eighth to twelfth aspects, when the set keyword is displayed in the conversation display screen shown in FIG. 3, beeps or displays the keyword on the front screen. When other than the conversation display screen, when the set keyword is sent from the chat server, it is returned to the conversation display screen.

[0108] When the terminal device extracts the keyword displayed on the screen, a region for the displayed keyword portion is kept in the region **15** of the extracted keyword data (FIG. 2).

[0109] The terminal device has keyword queues **18**, **21** (FIG. 2) same as in the case of URL in each channel, and its operation for extracting the preceding context, keyword and succeeding context is same as the operation in the terminal device for executing the display method of the chat system in the sixth and seventh aspects, except that the URL is replaced by the keyword, and the description is omitted.

[0110] FIG. 12 is an explanatory diagram showing the screen for displaying the extracted preceding context, keyword and succeeding context in the display method of the chat system according to ninth and eleventh aspects. The called context can be confirmed herein.

[0111] The screen for displaying list of the extracted preceding context, keyword and succeeding context by the display method of the chat system according to the ninth, tenth and twelfth aspects is same as in FIG. 7 showing the URL, except that the URL is replaced by the keyword.

[0112] The terminal device for executing the display method of the chat system of the tenth and twelfth aspects confirms whether there is data or not in the region **15** of extracted keyword data (FIG. 2) at the end of conversation, and when there is data, the same screen as in the case of URL in FIG. 7 is displayed.

[0113] FIG. 13 is a flowchart showing the operation of the terminal device for executing the display method of the chat system according to the eleventh embodiment. When starting up, the terminal device resets a keyword onset flag **11** (FIG. 2) (Step S66).

[0114] The terminal device sets the keyword onset flag (Step S68) when the set keyword is displayed in the conversation display screen shown in FIG. 3 or the keyword is sent from the chat server and extracted (Step S67, YES).

[0115] The terminal device, when the keyword onset flag 11 is set (Step S70, YES) at inputting a message (statement) from a local keyboard by the user (Step S69, YES), displays the keyword onset context (FIG. 12) (Step S72), and resets the keyword onset flag 11 (Step S74).

[0116] FIG. 14 is a conceptual diagram showing the concept of the display method of the chat system in a thirteenth aspect. When the user selects a partner for calling by telephone from a region 25 displaying a list of participants on the conversation display screen of the terminal device 3 shown in FIG. 3, it is connected to the partner's terminal device 4 by telephone through a network 1 of public circuits by telephone software. This telephone circuit is separate from the circuit used by the chat system. In usual telephone, it is same as mentioned above, and the method of calling includes a method of connected by an exchange through the network 1, and a method of connecting the telephone set and the terminal device.

[0117] In the storage device of the terminal device, a region for storing telephone numbers used by the user is provided.

[0118] It is also possible to call in the following method.

[0119] For example, "mul" makes a call to "pine". The terminal device prepares a calling message in a format of, for example, "<sup>^</sup>APHONE 164.70.21.211<sup>^</sup>A", and sends this message to "pine" in the same manner as in conversation.

[0120] Herein, by enclosing by "<sup>^</sup>A", it is distinguished from the conversation, and "PHONE" means a calling request, and "164.70.21.211" is the IP address of the terminal used by "pine".

[0121] By using a command of chat system, when this message is sent in a format of, for example, "privmsg pine: <sup>^</sup>APHONE 164.70.21.211<sup>^</sup>A", it is transmitted to the "pine" side by the chat server as "mul privmsg pine <sup>^</sup>APHONE 164.70.21.211<sup>^</sup>A".

[0122] The terminal device at the "pine" side checks if the message is enclosed by "<sup>^</sup>A" or not when processing the message, and if enclosed, the content is analyzed.

[0123] When the content is "PHONE", it means a telephone request, and the IP address "164.70.21.211" next of "PHONE" is acquired, and by using this IP address, a telephone call is made through the telephone software.

[0124] Since this IP address is an address of a terminal device of "mul", this telephone is received and connected by the telephone software of the terminal device of "mul".

[0125] FIG. 15 is an explanatory diagram showing a construction of an embodiment of a recording medium according to fourteenth to sixteenth aspects. This recording medium is a recording medium FDa such as flexible disk, CD-ROM disk or magneto-optical disk, recording a computer program PRa comprising a step of sending and receiving conversations in plural channels, a step of displaying the conversation in the channel being noticed (main channel) out of these conversations and conversations in other channels in individual regions 23, 24 (FIG. 3) in one display

screen, a step of displaying the statement inputted from a local keyboard in an intermediate region 22 (FIG. 3) of the individual regions, and a step of replacing other channel with the channel being noticed when the statement in the region 24 of other channel is specified, which is loaded in a disk drive DD, and its content is read into a personal computer PC.

[0126] The read computer program PRa controls the personal computer PC.

[0127] The other constitution and operation are same as the constitution and operation of the embodiment of the display method of the chat system according to the third to fifth aspects, and the explanation is omitted.

[0128] FIG. 16 is an explanatory diagram showing a construction of an embodiment of a recording medium according to seventeenth and eighteenth aspects. This recording medium is a recording medium FDb such as flexible disk, CD-ROM disk or magneto-optical disk, recording a computer program PRb comprising a step of sending and receiving conversations in plural channels, a step of displaying these conversations, a step of storing the URL displayed during these conversations together with the statement for a specific number of lines before and after it, a step of listing and displaying the stored URL according to an instruction, a step of listing and displaying a selected URL together with the statement for a specific number of lines before and after it, a step of registering the stored URL and the statement for a specific number of lines before and after it in a database, and a step of listing and displaying the registered URL and the statement for a specific number of lines before and after it according to an instruction, which is loaded in a disk drive DD, and its content is read into a personal computer PC.

[0129] The read computer program PRb controls the personal computer PC.

[0130] The other constitution and operation are same as the constitution and operation of the embodiment of the display method of the chat system according to the sixth and seventh aspects, and the explanation is omitted.

[0131] FIG. 17 is an explanatory diagram showing a construction of an embodiment of a recording medium according to nineteenth to twenty-third aspects. This recording medium is a recording medium FDe such as flexible disk, CD-ROM disk or magneto-optical disk, recording a computer program PRc comprising a step of sending and receiving conversations in plural channels, a step of displaying these conversations, a step of setting a keyword, a step of displaying the keyword in bold type or generating a specified sound when the keyword is displayed during display of the conversation, a step of returning to the display of conversation when the keyword is received while conversation is not displayed, a step of storing the keyword together with the statement for a specific number of lines before and after it, a step of listing and displaying the keyword together with the statement for a specific number of lines before and after it at the end of conversation, a step of listing and displaying the keyword together with the statement for a specific number of lines before and after when inputted from a local key board after the step of storing the keyword together with the statement for a specific number of lines before and after it, and a step of registering the

keyword together with the statement for a specific number of lines before and after it into a list application provided outside at the end of conversation, which is loaded in a disk drive DD, and its content is read into a personal computer PC.

[0132] The read computer program PRc controls the personal computer PC.

[0133] The other constitution and operation are same as the constitution and operation of the embodiment of the display method of the chat system according to the eighth to twelfth aspects, and the explanation is omitted.

[0134] FIG. 18 is an explanatory diagram showing a construction of an embodiment of a recording medium according to a twenty-fourth aspect. This recording medium is a recording medium FDd such as flexible disk, CD-ROM disk or magneto-optical disk, recording a computer program PRd comprising a step of sending and receiving conversations in plural channels, a step of displaying these conversations, a step of listing and displaying participants in the conversations, and a step of connecting a selected participant by telephone, which is loaded in a disk drive DD, and its content is read into a personal computer PC.

[0135] The read computer program PRd controls the personal computer PC.

[0136] The other constitution and operation are same as the constitution and operation of the embodiment of the display method of the chat system according to the thirteenth aspect, and the explanation is omitted.

[0137] As described herein, according to the terminal device of the chat system of the first aspect of the invention, the conversations in other channels can be glanced while speaking by paying attention to the conversation content of the presently speaking channel (main channel).

[0138] According to the chat system of the second aspect of the invention, in the terminal device, the conversations in other channels can be glanced while speaking by paying attention to the conversation content of the presently speaking channel (main channel).

[0139] According to the display method of the chat system of the third aspect of the invention and the computer system controlled by the program recorded in the recording medium of the fourteenth aspect, the conversations in other channels can be glanced while speaking by paying attention to the conversation content of the presently speaking channel (main channel).

[0140] According to the display method of the chat system of the fourth aspect of the invention and the computer system controlled by the program recorded in the recording medium of the fifteenth aspect, the conversation contents in the main channel and other channels can be reviewed from the latest one while speaking into the main channel.

[0141] According to the display method of the chat system of the fifth aspect of the invention and the computer system controlled by the program recorded in the recording medium of the sixteenth aspect, the operator can immediately participate in the conversation of interesting topic or curious subject.

[0142] According to the display method of the chat system of the sixth aspect of the invention and the computer system

controlled by the program recorded in the recording medium of the seventeenth aspect, by extracting the context simultaneously with the character string of URL, important information can be picked up from the conversation. Or, by registering in the database, a useful information database accessible any time can be configured from ordinary conversations.

[0143] According to the display method of the chat system of the seventh aspect of the invention and the computer system controlled by the program recorded in the recording medium of the eighteenth aspect, by registering in the database, a useful information database accessible any time can be configured from ordinary conversations.

[0144] According to the display method of the chat system of the eighth aspect of the invention and the computer system controlled by the program recorded in the recording medium of the nineteenth aspect, the operator, by setting, for example, the own name as the keyword, can reply immediately when the name is called if not exclusively engaged in the conversation, and therefore can do other work at ease. At the same time, the calling side also feels at ease that the partner will respond when the name is called, so that the participants can speak at ease if not exclusively engaged in the conversation.

[0145] According to the computer system controlled by the display method of the chat system of the ninth aspect of the invention and the program recorded in the recording medium of the twentieth aspect, the operator, by setting, for example, the own name as the keyword, can reply immediately and confirm the context, too, when the name is called if not exclusively engaged in the conversation, and therefore can do other work at ease. At the same time, the calling side also feels at ease that the partner will respond when the name is called, so that the participants can speak at ease if not exclusively engaged in the conversation.

[0146] According to the display method of the chat system of the tenth aspect of the invention and the computer system controlled by the program recorded in the recording medium of the twenty-first aspect, the operator, by setting, for example, the own name as the keyword, can review for which reasons he is called during the day and check for works left undone.

[0147] According to the display method of the chat system of the eleventh aspect of the invention and the computer system controlled by the program recorded in the recording medium of the twenty-second aspect, the operator, by setting, for example, the own name as the keyword, can return to the terminal device when the name is called while staying away from the terminal device, and immediately confirm the calling of the name and its context.

[0148] According to the display method of the chat system of the twelfth aspect of the invention and the computer system controlled by the program recorded in the recording medium of the twenty-third aspect, the operator, by setting, for example, the own name as the keyword, can review for which reasons he has been called, save the record, and check for works left undone.

[0149] According to the display method of the chat system of the thirteenth aspect of the invention and the computer system controlled by the program recorded in the recording medium of the twenty-fourth aspect, the operator can con-

nect by telephone by easy operation when wishing to speak directly person to person during conversation.

[0150] As the invention may be embodied in several forms without departing from the spirit of essential characteristics thereof, the present embodiments are therefore illustrative and not restrictive, since the scope of the invention is defined by the appended claims rather than by the description preceding them, and all changes that fall within metes and bounds of the claims, or equivalence of such metes and bounds thereof are therefore intended to be embraced by the claims.

What is claimed is:

1. A display method for a chat system, the method comprising:

storing a number of lines of statements of any conversation taking place via the chat system;

storing a uniform resource locator (URL) included in the stored statements together with a specific number of lines of the statements before and after a line where said URL occurs in the stored statements;

displaying a list of stored URLs according to an instruction;

selecting a URL from the displayed list of stored URLs; and

displaying of the selected URL together with a list of the corresponding specific number of lines of the statements before and after the line where said selected URL has occurred in the stored statements.

2. The display method for a chat system as set forth in claim 1, further comprising:

registering said stored URL and the specific number of lines of the statements before and after the line of the stored URL in a database; and

displaying the URL and a list of the specific number of lines of the statements before and after the line where said URL has occurred in the stored statements according to an instruction.

3. A computer memory product readable by a computer storing executable code which makes a computer to execute a method for displaying conversation in a chat system, the method comprising:

sending and receiving conversations in plural channels;

storing a number of lines of statements of a received conversation;

storing a uniform resource locator (URL), together with corresponding statements including a specific number of lines before and after where said URL occurs in said stored statements;

displaying a list of the stored URLs according to an instruction; and

displaying the selected stored URL together with a list of corresponding statements.

4. The computer memory product as set forth in claim 3, further comprising:

registering said stored URL and said corresponding statements in a database; and

displaying said registered URLs and a list of corresponding specific number of lines of the statements according to an instruction.

5. A computer program product stored on a computer readable medium for use with a chat system, comprising:

a first module causing a computer to send and receive conversations in plural channels;

a second module causing said computer to store a specific number of lines of statements of a received conversation;

a third module causing said computer to store a uniform resource locator (URL) included in said stored statements together with a portion of the stored statements including a specific number of lines before and after said URL occurs in the received conversation;

a fourth module causing said computer to display a list of the stored URLs according to an instruction; and

a fifth module causing said computer to display the selected URL together with a list of the corresponding portion of the stored statements.

6. The computer program product as set forth in claim 5, said computer readable program code further comprising:

a sixth module causing said computer to register said stored URL and said statement in a database; and

a seventh module causing said computer to display a list of said registered URL and a list of corresponding statements according to an instruction.

7. A display method for displaying conversations in a chat system, the method comprising:

storing a number of lines of statements of a received conversation;

storing a uniform resource locator (URL) together with corresponding statements including a specific number of lines of statements before and after said stored URL occurs in the received conversation; and

displaying the corresponding statements by identifying the stored URL.

8. An apparatus comprising:

a first storing device storing in a data base a specific number of lines of statements of any conversation;

a scanning device scanning conversations in a plurality of channels to find a preset keyword or a uniform resource locator (URL) occurring in a conversation;

a second storing device storing in said data base a predetermined number of lines of statements before and after said keyword or URL occurs in the conversation stored by said first storing device when said scanning device finds said keyword or a URL in the conversation; and

a cataloging device retrieving the stored predetermined number of lines corresponding to an input keyword or a URL, from the database.

9. A method performed on conversations in a chat room, comprising:

storing a specific number of lines of statements of any conversation;

scanning the stored conversations to find a preset keyword or a uniform resource locator (URL);

storing in a database a predetermined number of lines of statements before or after the preset keyword or URL upon finding of said keyword or a URL included in the stored statements; and

retrieving from said database the stored predetermined number of lines of the statements corresponding to an input keyword or URL.

**10.** A computer readable storage device storing a program instructing a computer to perform:

every time a conversation is received, storing in a chat room a specific number of lines of statements of the received conversation;

scanning conversations in said chat room to find a preset keyword or a uniform resource locator (URL);

storing in a database, upon finding of said keyword or a URL included in the stored statements, a predetermined number of lines of the statements before or after the keyword or URL stored in said chat room; and

retrieving from said database the stored predetermined number of lines of the statements corresponding to an input keyword or URL.

**11.** A terminal device used in a chat system for performing conversations, in the form of characters, among terminal devices connected by a network, comprising:

a display; and

a processor extracting and storing a uniform resource locator (URL) included in a conversation displayed on the display screen, wherein the processor lists the extracted URLs on the screen.

**12.** A terminal device with a display screen used in a chat system for performing conversations, in the form of characters, among terminal devices connected by a network, comprising:

a processor storing a specific number of lines of statements of any conversation displayed on the display screen, extracting and storing a uniform resource loca-

tor (URL) included in said stored statements, and extracting, storing and informing about an appearance of a preset keyword in said stored statements.

**13.** The terminal device used in a chat system as set forth in claim 12, wherein the preset keyword is a character string indicating a name of a terminal user.

**14.** The terminal device used in a chat system as set forth in claim 12, wherein the processor further stores the preset keyword as a character string indicating a name of a user; and displays an emphasized character string when the stored character string appears in conversations displayed on the display screen.

**15.** The terminal device used in a chat system as set forth in claim 12, wherein the processor further stores the preset keyword as a character string indicating a name of a user; and informs about an appearance of the character string by emitting a voice message when the stored character string appears in conversations displayed on the display screen.

**16.** The terminal device used in a chat system as set forth in claim 12, wherein the processor further stores a character string of a predetermined number of lines including the preset keyword when the stored keyword appears in the displayed conversation, and lists the predetermined number of lines including the preset keyword upon request.

**17.** A computer memory product in which a computer program of a display method of a chat system is recorded, said computer program comprising:

a first module causing a computer to store a specific number of lines of statements of any received conversation;

a second module causing said computer to store a uniform resource locator (URL) included in said stored statements together with stored statements preceding and following said URL;

a third module causing the computer to list stored URLs when a predetermined instruction is issued; and

a fourth module causing a computer to display a URL selected from the list of stored URLs together with the correspondingly stored statements.

\* \* \* \* \*