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(54) **UNIFIED MANAGEMENT METHOD OF
VARIOUS TYPES OF MESSAGES OF A
PERSONAL INFORMATION TERMINAL**

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(57) **ABSTRACT**

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The present invention relates to a method of displaying several types of messages all together through a single window and of enabling a user to write and transmit a message with no consideration of message type. This unified message management method displays various types of messages all together along with their respective message types through a single window, converts the type of a written message, if needed, to match it to a protocol determined based on information written in its field distinguishing a message type, and transmits the type-converted message, whereby a user can confirm all types of received messages at a time and user's inconvenience that a message type to write should be distinguished in advance prior to choosing a message input screen can be removed.

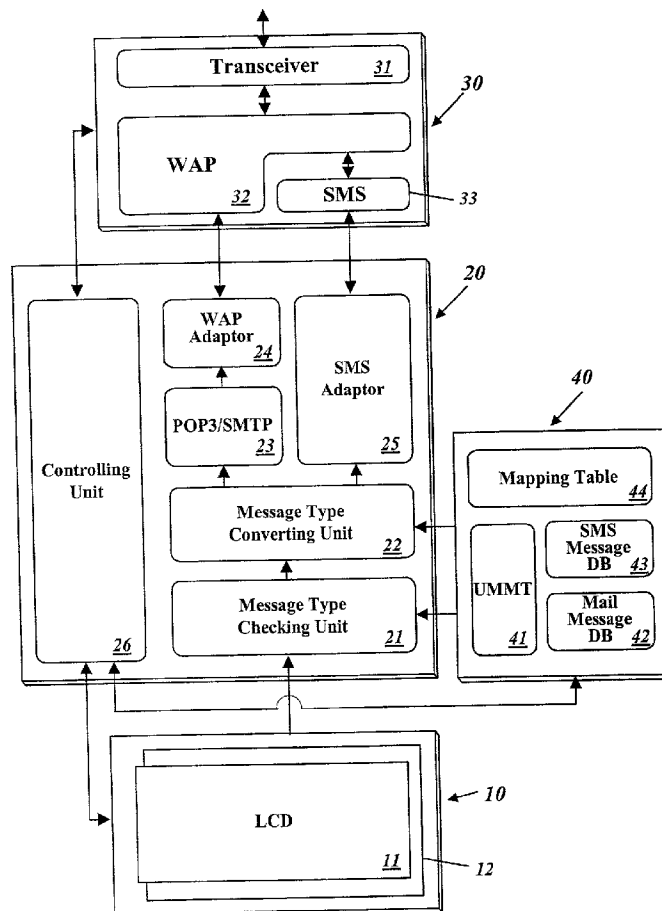


FIG. 1

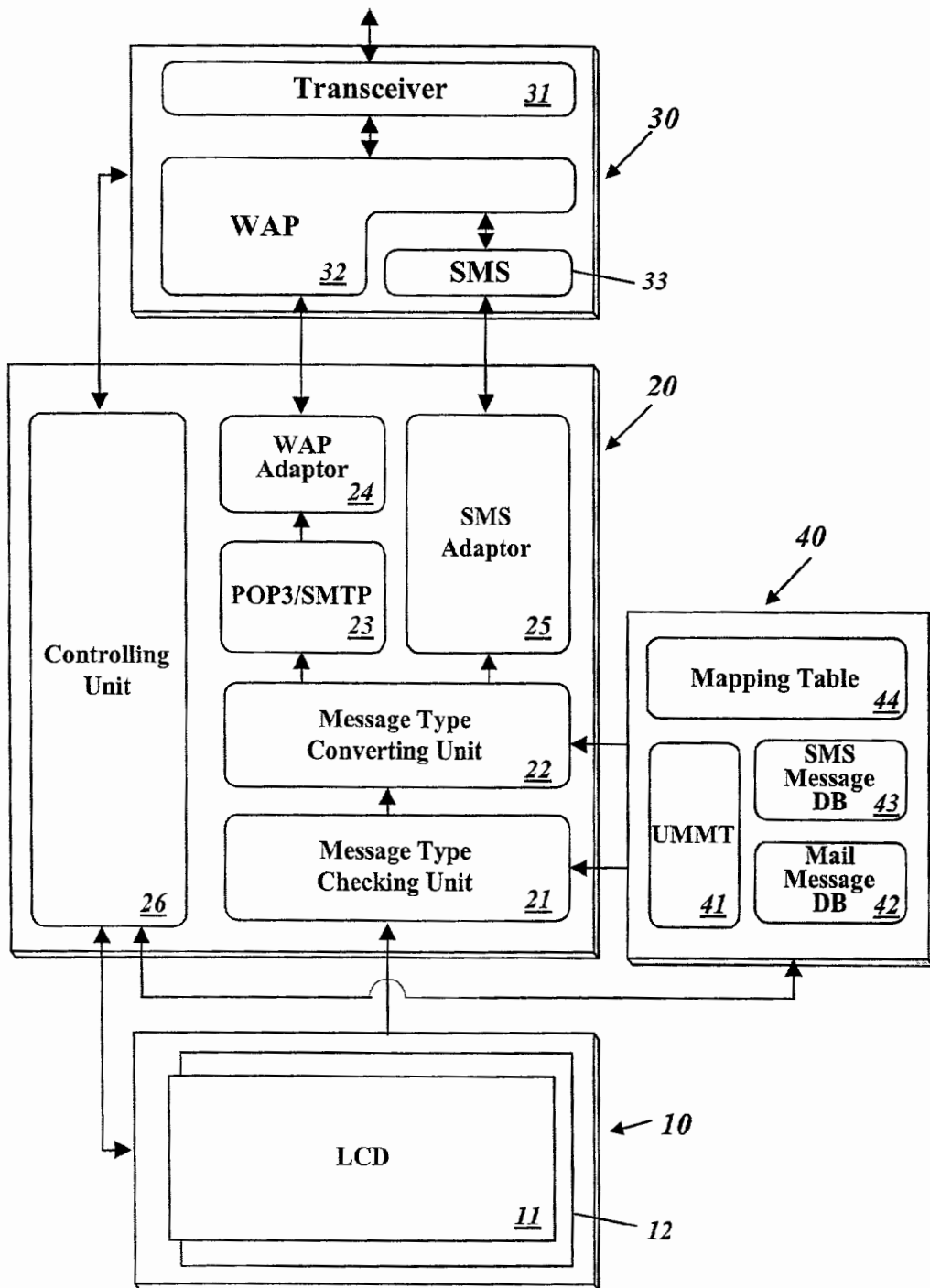


FIG. 2

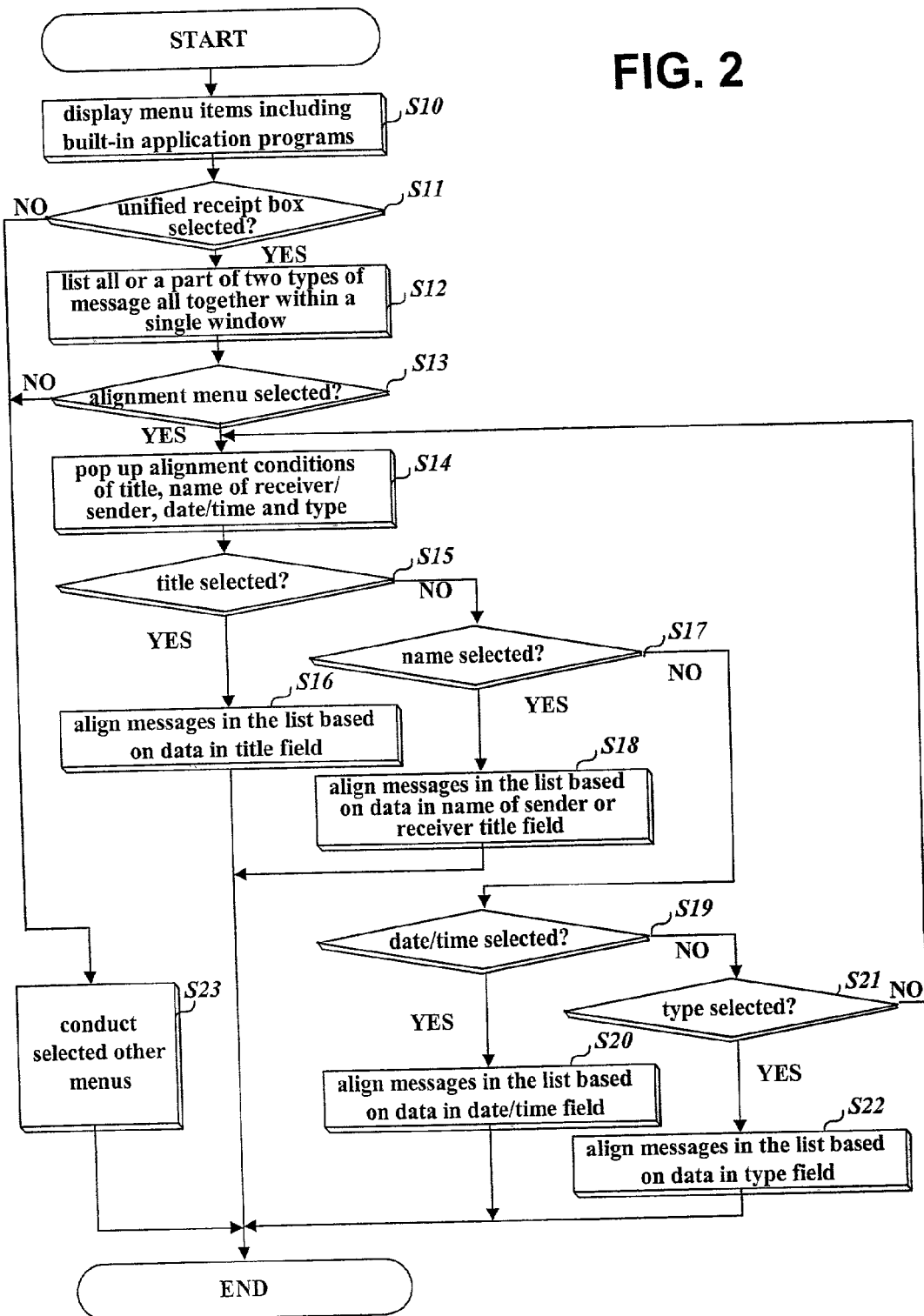


FIG. 3

Field	Size (Byte)	Index	Description
ID	8		number point a message uniquely
Date/Time	8	use	Date and Time when a message is arrived or transmitted
Type/Opened	1	use	unread e-mail message : 0 opened e-mail message : 1 unread SMS message : 2 opened SMS message : 3
Receiver	64	use	information of a receiver
Sender	64	use	information of a sender
Title	80	use	title of e-mail message or full or a part of a SMS message
Size	10		size of an actual message

FIG. 4

icon for opened SMS message

icon for unread SMS message

icon for unread e-mail message

icon for opened e-mail message

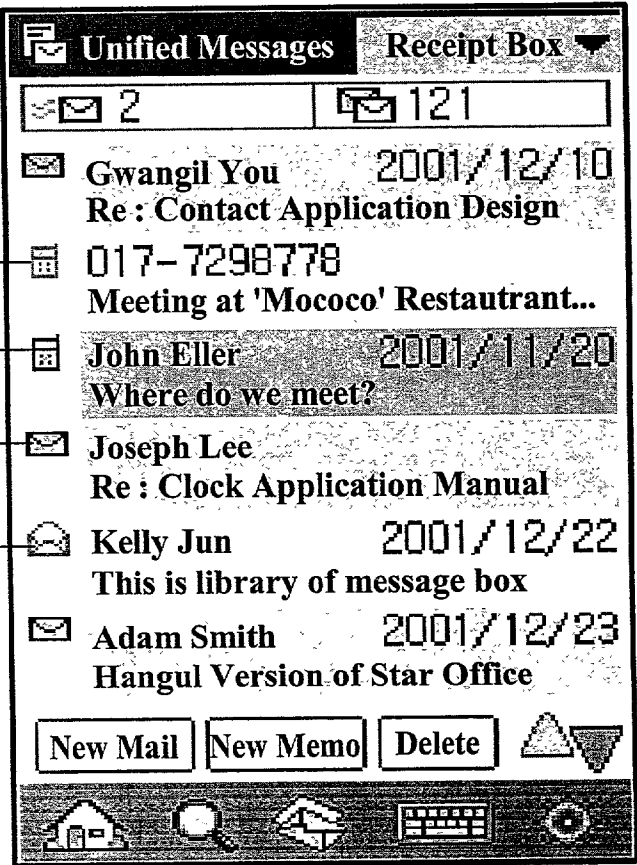


FIG. 5

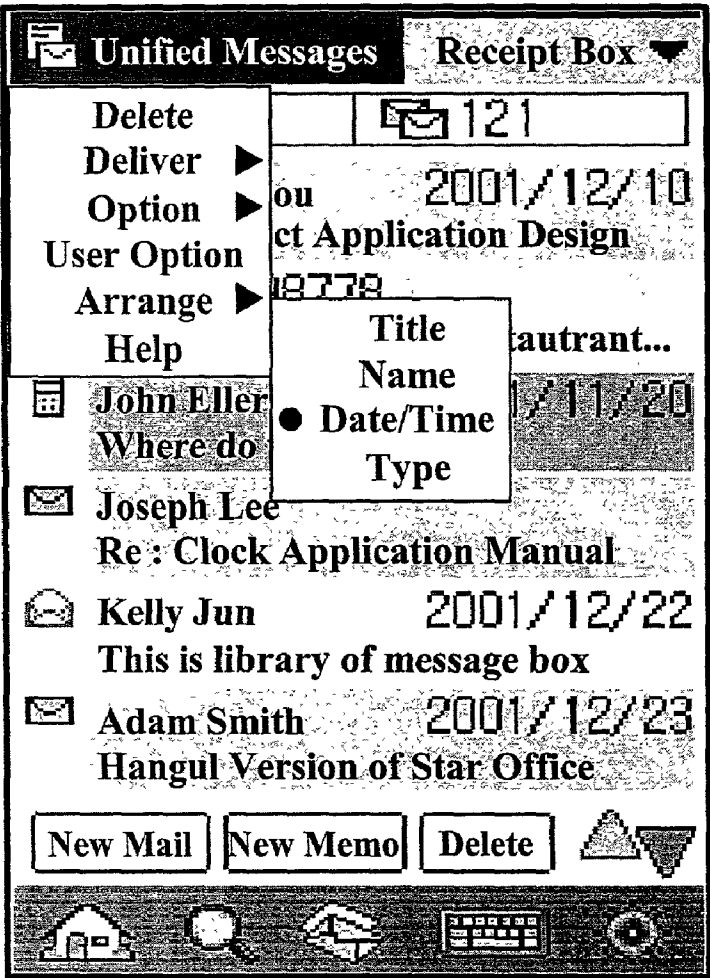


FIG. 6a

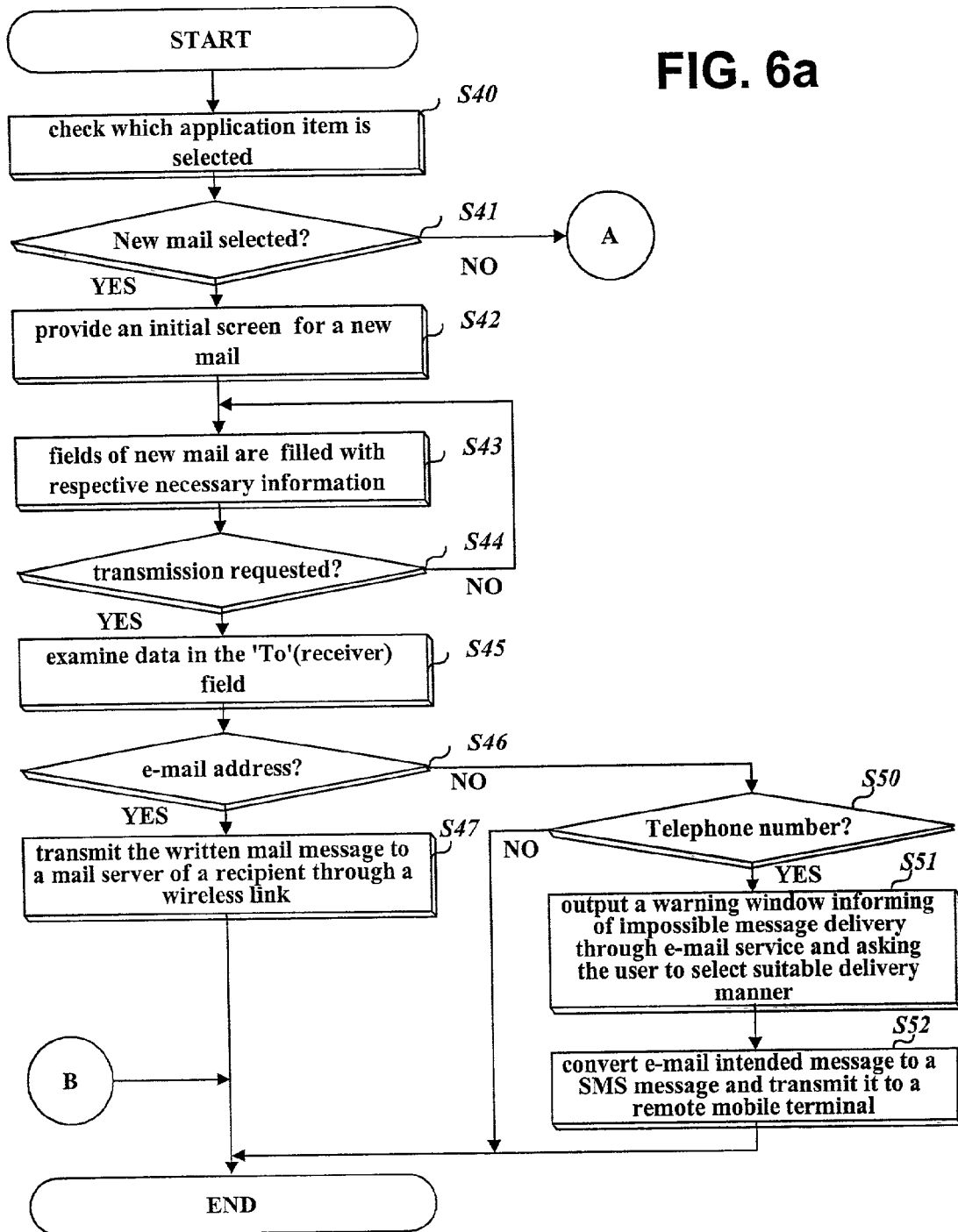


FIG. 6b

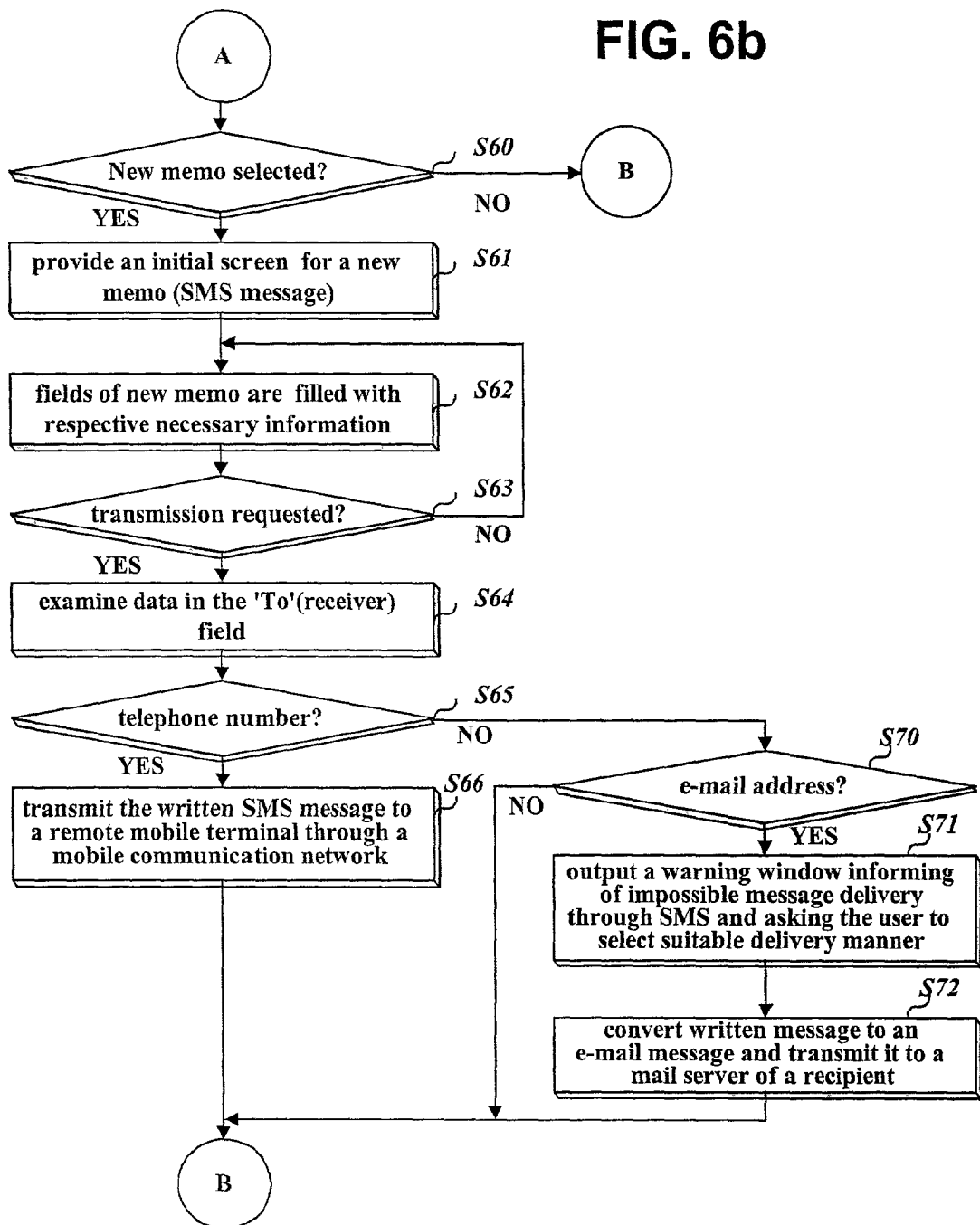


FIG. 8



New Memo

To

dino211@mailserver.com

From

Send

Cancel

1	2	3	4	5	6	7	8	9	0
Q	W	E	R	T	Y	U	I	O	P
A	S	D	F	G	H	J	K	L	;
Z	X	C	V	B	N	M	,	.	/
Close	%	!	A	12	@	▽	△		➔

FIG. 7

Figure 1 is a schematic diagram of a mobile phone interface for sending an SMS. The interface includes a "New Mail" header, a "To" field with the number "0191234567", and fields for "CC", "Attached", and "Title". A warning dialog box is displayed in the center, stating "Warning! Can't send through e-mail service Change to New Memo for SMS" with an "ok" button. Below the dialog is a numeric keypad with letters assigned to numbers 2-9, and a "Send" button, a "Cancel" button, and a "Close" button. The "Close" button has a dropdown arrow. Reference numerals 701, 710, and 711 point to the main interface, the warning dialog, and the "ok" button respectively.

FIG. 9

✉
New Memo

To	0191234567
From	0199876543

This is an explanation about drawings I have Fig. info

Warning!
 Message length is overflow.
 Change to Mail type for e-mail delivery

ok

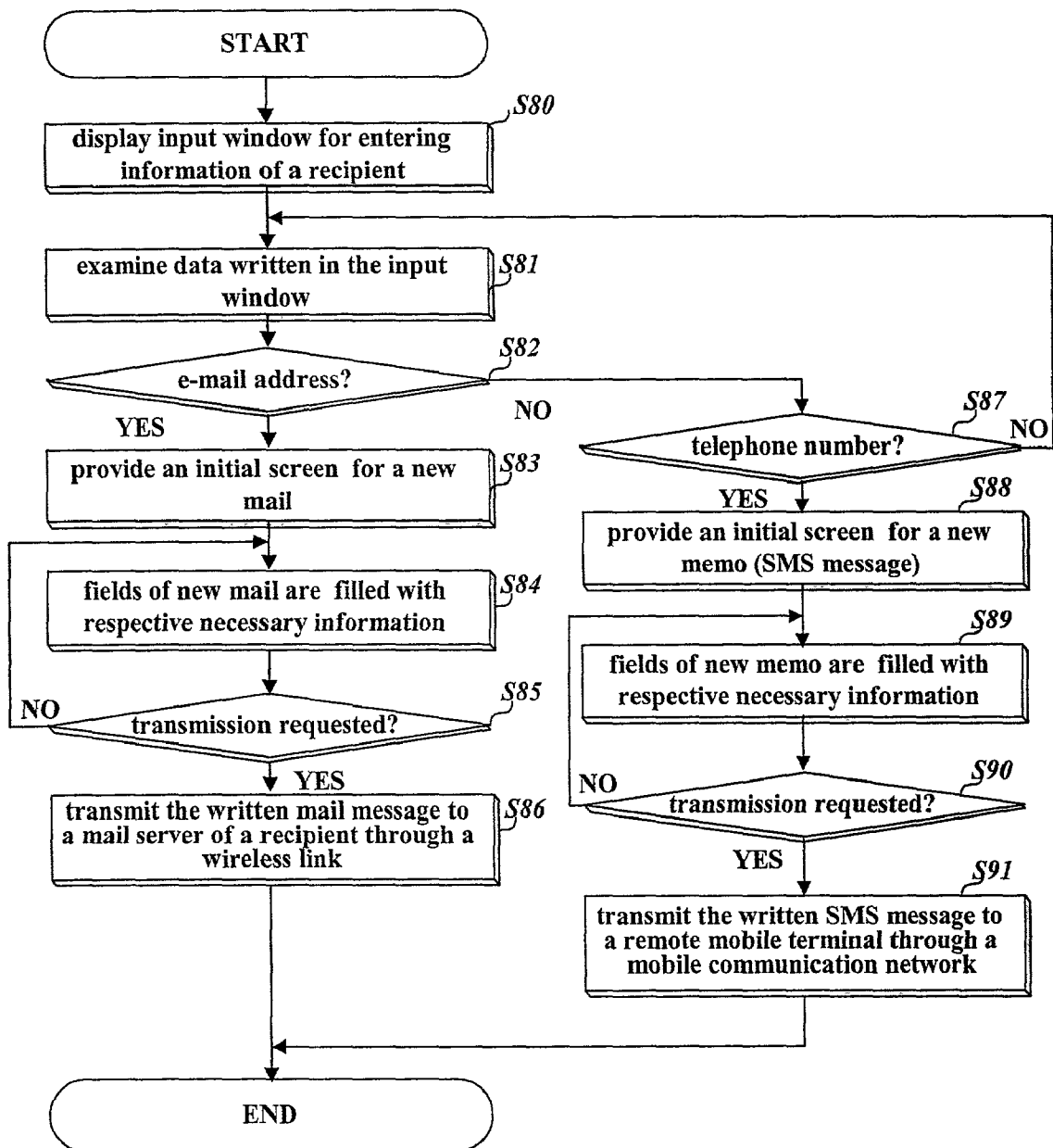
method of managing a variety of messages

Send
Cancel

1	2	3	4	5	6	7	8	9	0
Q	W	E	R	T	Y	U	I	O	P
A	S	D	F	G	H	J	K	L	;
Z	X	C	V	B	N	M	,	.	/
Close	°i	A	12	@	▽△	⬅			

101

FIG. 10



UNIFIED MANAGEMENT METHOD OF VARIOUS TYPES OF MESSAGES OF A PERSONAL INFORMATION TERMINAL

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates to a message displaying and transmitting method of a personal information terminal, more particularly, to a method of displaying several types of messages all together through a single window and of enabling a user to write and transmit a message with no consideration of message type.

[0003] 2. Description of the Related Art

[0004] Remarkable technology development is making a cellular phone and a PCS phone much smaller, lighter and cheaper, so that a mobile phone is being popularized widely and rapidly. In these days, various mobile information terminals other than the popularized mobile phone are being introduced too. Among those mobile information terminals, a PDA (Personal Digital Assistant) stands in the spotlight of consumers.

[0005] Some PDAs equip with a CDMA wireless modem which can communicate signals with a CDMA mobile communication network, thus, a person carrying such a PDA is able to use a mobile communication network or to communicate data through a mobile communication network anytime and anywhere. In other words, a user with such a PDA can use not only Short Message Service (SMS) of a mobile communication network but also data communication such as e-mail transmitting/receiving through traffic channels allocated in air link of a mobile communication network.

[0006] However, the SMS of a mobile communication network and the e-mail service of a data network are totally different each other in protocol. Namely, the SMS uses a protocol specified by a mobile communication network whereas the e-mail service uses Post Office Protocol (POP)/Simple Mail Transfer Protocol (SMTP) agreed with a data server. Because the SMS and the e-mail service are conducted according to the mutually different protocols, the PDA has in general two built-in message management (editing, displaying, transmitting, etc.) application programs, one for message to be received/transmitted through SMS which is called 'SMS message' hereinafter, and the other for message to be received/transmitted through e-mail service which is called 'mail message' hereinafter. Thus, two separate DBs are prepared for SMS messages and mail ones respectively.

[0007] However, users do not know well the fact that the SMS message and the mail message exist separately due to such technical differences. Instead, they feel only inconvenience of message management because there are two separate methods which conduct same function, namely, message delivery. For example, when a user completes a SMS message, it can not be transmitted if it is against SMS protocol, e.g., if an e-mail address is entered as a recipient's address. In this case, a mail management application program should be executed newly. Then, because the application program to send a message is changed, the previously entered message is not preserved. Therefore, a user should re-write the same message or copy and paste the previous

message into the mail management application program. This procedure to correct protocol mismatched inputs is somewhat boring to a user.

[0008] Moreover, a user also feels boring in message storing and searching work because of two separate methods of same function. Namely, if a user can not remember exactly whether a message he or she wrote is a SMS or a mail one, same message searching operations would be conducted individually with the two message-related applications.

SUMMARY OF THE INVENTION

[0009] It is an object of the present invention to provide a unified message management method of a personal information terminal which displays plural types of messages all together through a single window, and transmits a completed message after matching it to a protocol determined based on information written in its field distinguishing a message type.

[0010] A unified management method of plural types of messages in a personal information terminal where each type has different message field set from others in accordance with the present invention is characterized in that it comprises the steps of receiving and storing messages each type of which belongs to the plural types; composing unified management information including information written in fields of each of the stored messages; and displaying the stored plural types of messages all together with reference to the composed unified management information.

[0011] Another unified management method of plural types of messages in a personal information terminal where each type has different message field set from others in accordance with the present invention is characterized in that it comprises the steps of reading information on a receiver of a written message of which type is intended to belong to one of the plural types; checking whether or not the read receiver information is matched with said one type; converting the written message to other type different from said one type based on a result of said checking step; and transmitting the type-converted message.

[0012] Another unified management method of plural types of messages in a personal information terminal where each type has different message field set from others in accordance with the present invention is characterized in that it comprises the steps of checking whether or not a written message, of which type is intended to belong to one type among the plural types, satisfies conditions specified by said one type; converting the written message to other type different from said one type if at least one condition is not satisfied; and transmitting the type-converted message.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] The accompanying drawings, which are included to provide a further understanding of the present invention, illustrate the preferred embodiments of the invention, and together with the description, serve to explain the principles of the present invention, and wherein:

[0014] FIG. 1 is a block diagram of a personal information terminal conducting a unified management method of plural types of messages in accordance with the present invention;

[0015] FIG. 2 is a flow chart of an embodiment of displaying received messages all together regardless of their types in accordance with a unified message management method of a personal information terminal of the present invention;

[0016] FIG. 3 shows a format of a unified message management table according to the present invention;

[0017] FIG. 4 shows an illustrative list of two types of messages displayed all together;

[0018] FIG. 5 shows an example of arrangement conditions for two types of messages displayed all together in a list;

[0019] FIGS. 6a and 6b are flow charts of an embodiment of selecting message transmitting manner suitable to the type of a written message in accordance with a unified message management method of a personal information terminal of the present invention;

[0020] FIG. 7 is an illustrative 'New Mail' input screen in which a warning window asking to switch to 'New Memo' is popped up when a recipient field is filled in with a telephone number;

[0021] FIG. 8 is an illustrative 'New Memo' input screen of which recipient field is filled in with an e-mail address;

[0022] FIG. 9 is an illustrative 'New Memo' input screen in which a warning window asking to transmit through e-mail service when the size of written message is beyond limit; and

[0023] FIG. 10 is a flow chart of an embodiment of providing an input screen suitable for a message to write and transmitting a written message in accordance with a unified message management method of a personal information terminal of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0024] In order that the invention maybe fully understood, a preferred embodiment thereof will now be described with reference to the accompanying drawings.

[0025] FIG. 1 is a block diagram of a personal information terminal conducting a unified management method of various types of messages in accordance with the present invention. The personal information terminal of FIG. 1 comprises an I/O module 10 for inputting/outputting data; a storage module 40 for storing several DBs or data tables; a communicating module 30 for conducting data communication; and a controlling module 20 for controlling data input/output, data conversion, and data communication.

[0026] In details, the I/O module 10 includes a wide LCD 11 for displaying information and a touch screen 12 for data input, the communicating module 30 includes a signal transceiver 31 transmitting/receiving wireless signals; a WAP unit 32 conducting WAP (Wireless Application Protocol) which ensures reliability of wireless data communication; and a SMS unit 33 allocating/extracting SMS messages to/from signal channels, and the controlling module 20 includes a message type checking unit 21 checking which type a written message belongs to; a message type converting unit 22 converting the format of a written message to match to other type based on whether it is matched with its

intended type; a POP3/SMTP unit 23 formatting a mail message to the e-mail protocol and retrieving a mail message vice versa; a WAP format adapting unit 24 adapting a POP/SMTP-formatted message to wireless transmission conditions and decoding received wireless signals to obtain digital data; a SMS format adapting unit adapting a message to SMS protocol and retrieving a SMS message from the received wireless signals; and a controlling unit 26 supervising operations of all elements overall.

[0027] FIG. 2 is a flow chart of an embodiment of displaying received messages all together regardless of their types of a personal information terminal in accordance with a unified message management method of the present invention. The procedure of FIG. 2 conducted in the personal information terminal of FIG. 1 is explained below in detail.

[0028] First, the controlling unit 26 displays a variety of built-in application programs and menu items onto the wide LCD 11 to be selected by a user (S10).

[0029] If a user clicks a unified receipt box among displayed items (S11), the controlling unit 26 searches both a mail message DB 42 and a SMS message DB 43 having been created in the storage module 40. All messages stored in the two DBs 42 and 43 have been received from outside. The two separate DBs 42 and 43 may be integrated into one DB.

[0030] In addition, a unified message management table (UMMT) 41 has been created in the storage module 40. The UMMT 41 is used for unified management of the two DBs 42 and 43 which contain different types of messages, respectively.

[0031] FIG. 3 shows the format of the UMMT 41. The fields of an entry of the UMMT 41 are compose of 'Message ID' identifying a message uniquely, 'Date/Time' indicative of date and time when a message is received (for receipt box) or transmitted (for transmitted box), 'Type/Opened' indicative of message type and whether a message is opened or not, 'Receiver' and 'sender' in which addresses of receiver and sender are filled in respectively, 'Title' in which title of a mail message is written or full or partial SMS message is written, and 'size' indicative of the size of an actual message.

[0032] The 'Message ID' links each entry of the UMMT 41 with a corresponding actual message written in the mail message DB 42 or the SMS message DB 43. The 'Date/Time', name of 'Receiver' or 'sender', 'Title', 'Type/Opened' field may be used for arranging condition.

[0033] The controlling unit 26 sequentially reads all entries of the UMMT 41, configured as above, stored in the storage module 40, and lists all or a part of them within a single window on the wide LCD 11, as shown in FIG. 4 (S12). At this time, the controlling unit 26 does not refer the mail message DB 42 and the SMS message DB 43 when it displays only title for a mail message and a short part of message for a SMS message. However, it reads out contents of respective messages from the two DBs 42 and 43 with reference to the message IDs written in each 'Message ID' field of the UMMT 41 when it has to show mail message and SMS message fully.

[0034] Specific fields are expressed differently based on message type. For example, information written in 'sender'

field is expressed in the form of e-mail address when the message type is mail, and in the form of telephone subscriber number when the type is SMS.

[0035] In the meantime, the controlling unit 26 may insert different icons with different color, which are determined based on the information written in 'Type/Opened' field, before every displayed items in the message list as shown in FIG. 4, as a result, a user can easily recognize which messages are not read yet and which type they belong to.

[0036] Afterwards, if the user selects 'Arrange' menu item (S13) in the condition that main menu of the unified receipt box is opened, the controlling unit 26 pops up a sub-menu composed of arrangement conditions of title, name (address) of receiver/sender, date/time, and message type, as shown in FIG. 5 (S14). If the user chooses one of the arrangement conditions (S15, S17, S19, S21) the messages in the list are re-arranged in ascending or descending alphanumeric order with respect to the chosen field (S16, S18, S20, S22).

[0037] The type arrangement condition may have sub-arrangement condition of 'Opened' which determines which one of unread messages and opened ones is displayed first.

[0038] Through the above-explained method, a user can check all messages by listing messages once irrespective of their types.

[0039] FIGS. 6a and 6b are flow charts of an embodiment of selecting message transmitting manner suitable to the type of a written message in a personal information terminal in accordance with a unified message management method of the present invention. The procedure of FIGS. 6a and 6b conducted in the personal information terminal of FIG. 1 are explained below in detail.

[0040] First, the controlling unit 26 checks which application item is selected through the touch screen 12 by a user (S40). If a 'New Mail' item is chosen by the user (S41) because an e-mail is intended to send, the controlling unit 26 provides an initial screen for a new mail which includes 'To', 'CC', 'Attached', 'Title' field, and message input window 701, as shown in FIG. 7 (S42). Then, the user fills in the 'To' and the 'Title' with respective necessary information without exception and fills in the 'CC' and the 'Attached' field, if needed. Afterwards, the user writes a message to send in the message input window 701. Through these filling-in works, a mail message to send is completed (S43).

[0041] When the user requests for transmission of the completed mail 10 message (S44), the controlling unit 26 commands the message type checking unit 21 to verify the completed message. The message type checking unit 21 examines the data written in the 'To' field (S45). If the data written in the 'To' field includes a symbol '@', indicative of mail account, as well as alphanumeric characters (S46), the message 15 type checking unit 21 delivers the completed message to the message type converting unit 22 while informing the message type converting unit 22 that the message is format-matched and requesting no-conversion of message type at the same time. Then, the message type converting unit 22 only delivers the received message to the POP3 unit 23 without type conversion. The completed message sent to the POP3 unit 23 is formatted to the mail protocol and transmitted to a target mail server through a wireless link (S47).

[0042] If the data written in the 'To' field is composed of numeric digits not including the symbol of '@' (SSO), the message type checking unit 21 informs the controlling unit 26 of the fact. Then, the controlling unit 26 pops up a warning window 710 which informs of impossible message delivery of the completed message through e-mail service and asks the user to change delivery manner of the completed mail message (S51), as shown in FIG. 7.

[0043] If the user agrees to type converted delivery by clicking 'OK' button on the warning window 710, the controlling unit 26 commands the message type converting unit 22 to convert the completed message received from the message type checking unit 21 to a SMS-formatted message. Then, before delivering the received message to the SMS format adapting unit 25, the message type converting unit 22 slices the written message into suitable-sized ones, which will be individually sent to the SMS format adapting unit 25 like as an independent SMS message, if the message length is beyond the limit of one message, and it composes a string indicative of filename and full pathname of an attached file if a file is attached in the 'Attached' field and appends the composed string to the written message, and it also adds a text in the 'Title' before the body message.

[0044] The SMS format adapting unit 25 adds necessary header and additional information to the completed message or the respective sliced messages in accordance with SMS protocol. The SMS-formatted message or messages are transmitted to a remote mobile phone through a wireless link (S52).

[0045] If a 'New Memo' item is chosen for SMS message transmission by the user (S60) instead of 'New Mail', the controlling unit 26 provides an initial screen for a new memo which includes 'To', 'From', and a message input window 801 onto the wide LCD 11, as shown in FIG. 8 (S61). At this time, the 'From' field may be omitted. If omitted, a subscriber number having been stored in an internal memory by the user is appended to a written memo by the SMS format adapting unit 25 to form a complete SMS message.

[0046] If the user requests for transmission of a written memo (S63) after filling in each field in an input screen of FIG. 8 with respective necessary information (S62), the message type checking unit 21 examines the data written in the 'To' field (S64) as explained above. If the data written in the 'To' field includes only numeric digits (S65), the completed memo is delivered to the SMS format adapting unit 25 which transmits it to a remote side (S66) after formatting to a SMS message.

[0047] However, if the data written in the 'To' field includes the symbol of '@' indicative of a mail account (S70) as shown in FIG. 8 the controlling unit 26 pops up a warning window which informs of impossible message delivery of the completed memo through SMS and asks the user to change delivery manner of the completed SMS message to e-mail service (S71).

[0048] If the user agrees to type converted delivery the message type converting unit 22 conducts conversion of the written SMS message to e-mail format, namely, it creates 'CC' and 'Attached' field additionally, writes null data in those fields respectively, and delivers the field-added message to the POP3/SMTP unit 23. The POP3 unit 23 formats the field-added message to the mail protocol and then transmits it to a mail server of a recipient via a WAP unit 32 (S72).

[0049] In the above procedures of memo composition and transmission thereof, even though the user fills in the 'To' field with proper numeric digits the controlling unit 26 may not transmit the written memo in the form of SMS message. Instead, the following additional verification and procedures based on the result of the verification may be conducted.

[0050] The message type checking unit 21 further counts alphanumeric characters written in the message input window 801 of FIG. 8, even though the 'To' field is filled in with proper numeric data, and informs the counted size of the memo to the controlling unit 26. Then, the controlling unit 26 checks whether the informed size is beyond the maximum size, e.g., 50 bytes allowed in a single SMS message. If below the maximum size, the controlling unit 26 makes the written memo be sent in the form of SMS message.

[0051] If the counted size is greater than the maximum size, the controlling unit 26 outputs a warning message 101 which informs that the written memo is preferable to be sent through e-mail service and asks the user whether he or she wants to switch the current 'New Memo' to 'New Mail' screen, as shown in FIG. 9. If the user still wants the written memo in the form of SMS message, the controlling unit 26 slices the written memo into maximum-sized messages allowable in SMS and sends each of the sliced messages to the SMS format adapting unit 25 one by one through the message format converting unit 22. The sliced SMS-formatted messages are transmitted sequentially to a target terminal addressed by the 'To' field.

[0052] If the user wants to switch the input screen to 'New Mail', the controlling unit 26 searches a mapping table 44 of telephone number to e-mail address, which is pre-stored in the storage module 40 by the user, for the numeric digits filled in the 'To' field. If found, the controlling unit 26 copies the e-mail address associated with the found numeric digits of the mapping table 44 to the 'To' field of the newly-activated 'New Mail'. The controlling unit 26 conducts same operations for the 'From' field of the 'New Memo' and, if the numeric digits in the 'From' field are found in the mapping table 44, it sends an e-mail address associated with the found numeric digits to the POP3 unit 23 which will add the received originating e-mail address to the written message in accordance with the e-mail protocol.

[0053] If the numeric digits are not found in the mapping table 44, a corresponding field in the 'New Mail' screen is left blank in order that the user might fill in with proper e-mail address manually.

[0054] Through the above-explained method, a user can send a SMS message as well as a mail message through 'New Mail' screen and send a mail message as well as a SMS message through 'New Memo' screen, too. Therefore, a user need not confirm in advance which type a message to write belongs to in order to choose a suitable one of 'New Mail' for e-mail message and 'New Memo' for SMS message.

[0055] In the meantime, the controlling unit 26 also outputs an informative message telling "Please correct the automatically-substituted e-mail address if it is not correct".

[0056] If the user requests for transmission of the written message in the condition that all fields are filled in properly, the written message is transmitted in the form of e-mail message to a mail server of a recipient through processes explained in detail above.

[0057] In the case that the written message in the 'New Memo' screen is transmitted in the form of e-mail message as aforementioned because its length is too long to encapsulate into a SMS message, the controlling unit 26 composes an additional short SMS message, e.g., a phrase of "E-mail transmitted to you", destined for the subscriber number written in the 'To' field of the 'New Memo' and sends it to the SMS format adapting unit 25 to be delivered to same recipient. The reason why the additional SMS message is composed and sent is to make a recipient check the transmitted e-mail message as soon as possible because it is intended to be sent in the form of SMS message which can be acknowledged more promptly than the e-mail message.

[0058] FIG. 10 is a flow chart, conducted in a personal information terminal, of an embodiment of determining the type of a message to write, providing an input screen suitable for the determined message type, and transmitting a message written the provided input screen in accordance with a unified message management method of the present invention.

[0059] In the procedure of FIG. 10, the controlling unit 26 outputs an input window demanding only information of a recipient (S80) first when a user requests for a new message. After data is entered in the input window completely, the controlling unit 26 commands the message type checking unit 21 to examine the entered data (S81). The message type checking unit 21 regards a message to write as SMS message when the entered data is composed of numeric digits, and as mail message when the entered data includes the symbol of '@' indicative of a mail account (S82). The identified message type by the message type checking unit 21 is notified to the controlling unit 26. Then, the controlling unit 26 provides the 'New Mail' screen of FIG. 7 if identified as mail message and the 'New Memo' screen of FIG. 8 if identified as SMS message (S83, S88). At this time, the controlling unit 26 copies the data entered in the input window to the 'To' field of the message input screen of FIGS. 7 or 8.

[0060] After the user completes a message by filling in necessary information as well as a body message in fields of the message input screen (S84, S89) he or she requests for transmission of the completed message (S85, S90). Then, the message type converting unit 22 delivers the completed message to the POP3/SMTP unit 23 or the SMS format adapting unit 25 which will transmit the received message to a remote side in accordance with a protocol intended by 'New Mail' or 'New Memo' (S86, S91).

[0061] Owing to the above-explained method, there is no need that a user should choose a message input screen suitable for a message type to transmit.

[0062] The above-explained unified message management method of a personal information terminal makes a user confirm all types of received messages at a time and removes user's inconvenience that a message type to write should be distinguished in advance prior to choosing a message input screen.

[0063] It will be apparent to those skilled in the art that various modifications and variations can be made in the present invention without departing from the spirit or scope of the invention. Thus, it is intended that the present invention cover the modifications and variations of this invention provided they come within the scope of the appended claims and their equivalents.

What is claimed is:

1. A method of displaying plural types of messages in a personal information terminal where each type has different message field set from others, comprising the steps of:

- (a) receiving and storing messages each type of which belongs to the plural types;
- (b) composing unified management information including information written in fields of each of the stored messages; and
- (c) displaying the stored plural types of messages all together with reference to the composed unified management information.

2. The method of claim 1, wherein said unified management information includes at least message identifying information and information regarding a message type, a sender, and receipt date/time.

3. The method of claim 2, wherein an entry of said unified management information is linked with an actual message by said message identifying information.

4. The method of claim 2, wherein said step (c) displays icons differently based on said message type information along with each corresponding message.

5. The method of claim 1, wherein said step (c) displays the plural types of messages in ascending or descending order with respect to data written in an arbitrary field of said unified management information.

6. The method of claim 1, wherein the plural types includes at least SMS type defined by a mobile communication and e-mail type defined by a data network.

7. A method of displaying plural types of messages in a personal information terminal where each type has different message field set from others, comprising the steps of:

- (a) receiving and storing messages each type of which belongs to the plural types; and
- (b) displaying the stored plural types of messages all together in ascending or descending order of data written in an arbitrary field which is common to all the plural types.

8. The method of claim 7, wherein the plural types includes at least SMS type defined by a mobile communication and e-mail type defined by a data network.

9. A method of transmitting a message in a personal information terminal capable of transmitting plural types of messages where each type has different message field set from others, comprising the steps of:

- (a) reading information on a receiver of a written message of which type is intended to belong to one of the plural types;
- (b) checking whether or not the read receiver information is matched with said one type;
- (c) converting the written message to other type different from said one type based on a result of said step (c); and
- (d) transmitting the type-converted message.

10. The method of claim 9, wherein the plural types includes at least SMS type defined by a mobile communication and e-mail type defined by a data network.

11. The method of claim 10, wherein said step (b) regards that the receiver information is matched with said one type if the receiver information is composed of numeric data and said one type is SMS one or if the receiver information includes a symbol indicative of a mail account and said one type is e-mail one.

12. The method of claim 9, wherein said step (c) further translates the receiver information of the written message with other receiver information defined in said other type with reference to a pre-stored mapping table of telephone number to e-mail address.

13. The method of claim 9, wherein said step (c) comprises the steps of:

- (c1) asking a user whether to convert type if the receiver information is not matched with said one type; and
- (c2) converting the written message to said other type when the user requests for type conversion.

14. A method of transmitting a message in a personal information terminal capable of transmitting plural types of messages where each type has different message field set from others, comprising the steps of:

- (a) receiving information on a receiver of a message which will be written;
- (b) determining which type among the plural types the message to be written belongs to based on the received information on a receiver;
- (c) providing a message input window suitable for inputting the determined type of message; and
- (d) transmitting a message completed in the provided message input window.

15. The method of claim 14, wherein the plural types includes at least SMS type defined by a mobile communication and e-mail type defined by a data network.

16. A method of transmitting a message in a personal information terminal capable of transmitting plural types of messages where each type has different message field set from others, comprising the steps of:

- (a) checking whether or not a written message, of which type is intended to belong to one type among the plural types, satisfies conditions specified by said one type;
- (b) converting the written message to other type different from said one type if at least one condition is not satisfied; and
- (c) transmitting the type-converted message.

17. The method of claim 16, wherein the plural types includes at least SMS type defined by a mobile communication and e-mail type defined by a data network.

18. The method of claim 16, wherein said step (a) checks whether the size of the written message is greater than a predetermined threshold.

19. The method of claim 16, wherein said step (b) further translates receiver information of the written message with other receiver information defined in said other type with reference to a pre-stored mapping table of telephone number to e-mail address.

20. The method of claim 16, wherein said step (b) comprises the steps of:

- (b1) asking a user whether to convert type if not satisfied; and
- (b2) converting the written message to said other type when the user requests for type conversion.

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