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**(54) A method for editing a photo and sending a photo
mail, and a mobile phone implementing the same**

Summary

The present invention relates to a method for editing a photo and sending a photo mail, and a mobile phone implementing the same. The mobile phone is comprised of a memory for storing a program that has an algorithmic structure that supports configuring a photo or picture as a photo mail and editing it, a control unit for processing a user's command so that the photo or picture in the photo mail can be edited and sent, and a keypad for transmitting the commands from the user so that the photo or picture can be edited and sent as a photo mail. In accordance with this, by providing a specific function for the user to edit a picture or photo to be sent as a photo mail, it is possible to produce various forms of pictures.

Representative figure

Figure 4

Keywords

Mobile phone, photo, photo mail, wireless internet, decorating

Specifications

Brief description of the figures

Figure 1 is a figure showing an example of a screen for selecting a photo mail according to the prior art.

Figure 2 is a block diagram showing the internal structure of a mobile phone for implementing the present invention.

Figure 3 is a block diagram of a network configuration for transmitting a photo mail according to the present invention.

Figure 4 is a flow chart showing the process of editing a photo and sending a photo mail according to the present invention.

Figure 5a is a figure showing an example of a screen for selecting a menu for editing a photo to be used in a photo mail according to the present invention. Figure 5b is a drawing showing an example of a screen for selecting a photo to be edited using the decoration functions. Figure 5c is an example of a function selection screen for editing a selected photo by selecting a desired function among the decoration functions. Figure 5d is a drawing showing an example of a screen for editing with a desired function among the decoration functions.

Figure 6 is a drawing showing an example of a screen showing an example of writing for sending a completed photo mail using the decoration functions in accordance with the present invention.

Detailed description of the invention

Purpose of the invention

Technology to which the invention belongs and prior art in that field

The present invention relates to a method for editing a photo and sending a photo mail, and to a mobile phone implementing the same. More specifically, the present invention relates to a method for implementing various functions so that a photo or picture to be used in a photo mail can be edited according to a user's taste on a mobile phone, and to a mobile phone implementing the method.

1 Mobile phones usually have a storage section called memory, in which programs and data that
2 can execute various functions are stored. The storage section is made up of memory called ROM
3 (read only memory) and RAM (random access memory). Due to the expansion of storage
4 capacity, various functions have been installed in addition to the original purpose of mobile
5 phones, which is making phone calls. Examples include a phone book that manages the names,
6 phone numbers, and personal information that is in the phone, data communication that allows
7 data to be sent and received, screen settings that set the LCD screen of the mobile phone, and
8 wireless Internet access that allows the user to access wireless Internet. Among these functions,
9 photo mail provides users with a way to attach a photo or picture and send it to a specific person.
10 In other words, rather than simply sending text messages, users are now able to attach their own
11 photos or other pictures to send messages, allowing the recipient to effectively understand the
12 sender's intentions.

13 However, conventional photo mail is structured in a way that it cannot be edited and sent to the
14 recipient. The figure showing this is shown in Figure 5b. In other words, the user had to select
15 and send a picture taken with a camera or a saved picture. Therefore, the user could not
16 effectively convey his/her intention to the other party because he/she could only use a plain
17 picture.

18 Technical challenges that the invention seeks to address

19 The present invention was conceived to solve the above-mentioned problems, and aims to
20 provide a specific function to allow a user to edit a picture or photo to be sent by photo mail.
21 Another purpose of the present invention is to provide a mobile phone that implements a specific
22 function to allow a user to edit a picture or photo to be sent by photo mail.

23 Composition and operation of the invention

24 The present invention provides a method for editing a photo or picture to be used as a photo mail
25 so that the user can decorate it in a desired format and send it to the other party, and a mobile
26 phone that enables the method to be implemented. A mobile phone is composed of a memory
27 that stores a program having an algorithmic structure that supports organizing and editing photos
28 or pictures into photo mails, a control unit that processes commands made by the user so that the

1 photos or pictures in the photo mail can be edited and sent, and a keypad that transmits
2 commands made by the user to edit photos or pictures and organize them into photo mails.
3 Therefore, mobile phone users can edit photos or pictures and send them as photo mail.
4 Hereinafter, preferred embodiments of the present invention will
5 be described in detail with reference to the attached figures.
6 Figure 2 is a block diagram showing the internal structure of a mobile phone for implementing
7 the present invention.
8 In order to implement the present invention, the block diagram of a mobile phone is composed
9 of a control unit (200), a keypad (210), a display unit (220), a memory unit (230), an audio
10 conversion unit (240), a wireless circuit unit (250), a camera module unit (260), etc. The
11 operation of a mobile phone having such a structure is described as follows.
12 The control unit (200) limits and controls all functions of the mobile phone, and in particular, the
13 present invention performs a function of allowing a user to edit a picture or photo for a photo
14 mail, a function of sending an edited picture or photo as a photo mail and storing the
15 corresponding message and picture, and a function of temporarily storing data generated through
16 a program that implements the above function stored in a memory unit (230) in a memory unit.
17 The keypad (210) is an input means for transmitting commands made by the user to the control
18 unit and is composed of a function button for executing a function and a general button for
19 simply entering letters or numbers, and to be precise, it serves as a medium for transmitting the
20 user's instruction to the control unit (200). These function key buttons and general buttons are
21 equipped with not only a key button for executing a function, but also a key button for forcibly
22 deactivating or resetting the setting, and in particular, command keys for using various functions
23 of the decorating for implementing the present invention are provided.
24 The display unit (220) provides, under the control of the control unit (200), an information
25 screen that provides information about the mobile phone, a menu screen that shows various
26 functions, an input screen that allows for the input of letters or numbers, an editing screen that
27 allows for the editing of pictures or photos, a screen for connecting to the wireless Internet, etc.
28 The memory unit (230) stores a program for driving a function processed by the control unit

(200), a predetermined program for implementing user convenience and various basic functions, etc. In particular, it stores a program having a function for allowing a user to edit a picture or photo for a photo mail and an algorithm for generating an edited picture or photo as a photo mail. In addition, it stores data for driving the above program and data used or generated thereby. The audio conversion unit (240) processes voices recorded by the user of the mobile phone through a microphone into data and transmits the data to the control unit (200), or processes data received from the outside and outputs analog voices through a speaker. The wireless circuit unit (250) receives phone calls or text messages sent from an external telephone through an antenna and transmits them to the control unit (200), or transmits an automatic response message stored in the storage unit to the caller's telephone through the antenna. It also connects to the wireless Internet and transmits data. The camera module unit (260) is able to support a camera capable of video communication, and is responsible for reading an object from a digital camera, processing it into an image, and transmitting it to the control unit.

Figure 3 is a diagram of a network configuration for transmitting a photo mail according to the present invention.

In order to implement the present invention, network configuration elements include a mobile phone (300), a base station (310), a base station controller (320), a mobile communication switch (330), a WAP server (340), a communication network (350), a browser (360), etc.

The mobile phone (300) is equipped with the wireless circuit unit described in the above Figure 2, transmits a photo mail including an image edited with the decorating function to the base station, and receives wireless data of the photo mail sent by the other party from the base station, processes it, and provides it to the user.

The base station (310) is a type of fixed station that wirelessly connects with individual mobile communication subscribers in the relevant area and controls mobile communication terminals.

The base station controller (320) controls the base station by connecting to the base station (310) and is connected to the mobile communication switch (330) through a controller matching process within the mobile communication switch (330).

1 The mobile communication switch (330) connects a call coming from the base station controller
2 (320) to another exchange or, if it is a local call, to the local exchange, and connects the call
3 through switching operations to perform charging according to call time, etc.

4 The WAP server (340) is intended to provide a linked service in response to a request from a
5 mobile communication switch (330), and unlike a web server that is usually composed of *http*
6 (hypertext transfer protocol), the WAP server is said to be a server that processes requests and
7 responses from a client using *wap* (wireless application protocol). This transmits data to a
8 browser on the client side on the Internet. In particular, in the present invention, a photo mail is
9 transmitted to the corresponding browser (360) through a communication network (350).

10 The communication network (350) consists of a mobile phone operator's network or a wired
11 network. A mail server for sending photo mail is also provided here.

12 The browser (360) connects to the WAP server (340) via the communication network (350) and
13 is installed on a client computer. Examples of the browser include Internet Explorer, Netscape,
14 and other web browsers commonly used in personal computers. However, the present invention
15 is not limited thereto, and any device capable of data communication with a WAP server, such as
16 a mobile phone or PDA, may be considered to be applicable.

17 Figure 4 is a flow chart showing the process of editing a photo and sending a photo mail
18 according to the present invention.

19 In order to edit pictures or photos using a mobile phone and use them as photo mail, it is possible
20 to configure a 'decorating' function in the menu so that the user can select it from the menu, or
21 alternatively, it is possible to provide a separate dedicated key button on the keypad of the
22 mobile phone. A figure that depicts the selection of the 'decorating' function from the menu is
23 shown in Figure 5a. In addition to the decorating function (500), various selection menus are
24 configured on this screen.

25 If a dedicated key button for the 'decorating' function is provided on the keypad of the mobile
26 phone, the user is able to simply select and use the wireless Internet access function by pressing
27 the key button. In addition, it is also possible to configure the 'decorating' function as a shortcut
28 icon on the initial menu screen.

1 In the present invention, it is assumed that the ‘decorating’ function is configured in the menu,
2 but there are various possible ways to select the decorating menu. Therefore, the process of
3 editing a picture or a photo and sending a photo mail is described under the assumption that the
4 decorating menu is selected from the menu screen. In addition, it is assumed that the photo or
5 picture is already stored in the memory unit of the mobile phone, whether transmitted using
6 wireless communication or the camera module.

7 When the user selects the decorating function menu on a mobile phone (step S400), a picture
8 selection screen showing a list of pictures that the user can select is displayed on the screen. An
9 example of this screen is shown in Figure 5b. In this screen, the user selects the name of the
10 picture that he or she wants to decorate (step S410). This example shows an example in which
11 ‘My Picture’ (510) containing the user’s image is selected.

12 As a photo to be edited with decoration is selected, the mobile phone displays the types of
13 decorations that allow the user to select the decorating function. An example of such a display
14 screen is shown in Figure 5c. This type of decoration consists of several editing menus. These
15 are just a few of its representative functions: screen flipping, which allows the user to rotate the
16 photo screen 180 degrees; angle rotation, which allows the user to rotate the photo by setting an
17 angle; border adding, which allows the user to decorate the edge of the photo in a certain shape;
18 overlap, which allows the user to overlap another picture on top of the photo; overlapping a
19 message on top of the photo, which allows the user to insert a desired message on top of the
20 photo; reducing and enlarging the original, which allows the user to reduce or enlarge the size of
21 the photo; copying a photo to multiple pictures, which allows the user to copy a photo to more
22 than one picture; and enlarging and reducing a specific area, which allows the user to enlarge or
23 reduce only a certain area of the photo.

24 A desired function is selected from the above-mentioned decorating functions and editing is
25 performed (step S420). In the example of the present invention, editing is shown by selecting
26 “Overlap message over photo” (520).

27 On the editing screen, the user can write or load a desired message and add it to the photo. This
28 can be done by placing the picture screen at the top and the message writing screen at the

bottom, so that the user can write a message directly or load an existing message. A figure showing this is shown in Figure 5d.

When photo editing is completed through this process, the user is moved from the editing screen to the photo mail writing screen. An example of this screen is shown in Figure 6. In this screen, the user is able to write an additional message, or complete the photo mail writing by simply entering the recipient's email or phone number, and when the send command is executed, the photo mail is sent to the other party (step S430).

When the photo mail is transmitted, the user is able to save the photo mail that was used.

Normally, the message and picture are saved separately, but it is also possible to save the entire photo mail that consists of both of these. When the user selects to save this, the data that makes up the photo mail is saved in the memory unit of the mobile phone (step S440).

The present invention has been described above with reference to the attached drawings and examples. However, the present invention is not limited to specific examples. In addition to this, those who have common knowledge in this technical field should understand that many modifications and variations are possible without departing from the scope of the present invention.

The scope of protection of the present invention should be defined by the attached patent claims.

Effects of the invention

According to the present invention, by providing a specific function to allow a user to edit a picture or photo to be sent via photo mail, it is possible to produce various picture formats.

(57) Scope of claims

Claim 1.

A mobile phone that supports photo editing, including a camera module unit that reads an object from a digital camera, processes it into an image, and transmits it to the control unit, a program having a function that allows the user to edit a picture or photo for photo mail and an algorithm that allows the user to create an edited picture or photo as a photo mail, and a memory unit that stores data for running the above program, and a control unit that temporarily stores data generated by a program that implements the above functions, such as editing a picture or photo

1 for photo mail, sending the edited picture or photo as photo mail, saving the corresponding
2 message and picture, and storing the above functions in the memory unit.

3 **Claim 2.**

4 A method of sending a photo mail by editing a photo including a step in which an image of a
5 photo or picture to be used as a photo mail is stored in the memory unit, and a list of image
6 names stored in the above memory unit is displayed as the decorating function for editing the
7 image and using it as a photo mail is selected, a step in which the types of decorating functions
8 for editing the above image are displayed when one is selected from the list of image names
9 above, a step in which when a desired function is selected from the above decorating functions,
10 an editing screen that allows the use of the above functions is displayed, editing is performed by
11 the user, and when the completion command is executed, a screen for writing a photo mail is
12 displayed, and a step in which when the above photo mail is created and the transmission
13 command is executed, the above photo mail is transmitted to the other party and the relevant data
14 of the photo mail is stored in the memory unit according to the user's selection.

15 **Claim 3.**

16 According to Claim 2, a method of sending a photo mail by editing a photo with the following
17 characteristics: in the above decorating function, there are the following functions of screen
18 flipping, which allows the user to rotate the photo screen 180 degrees; angle rotation, which
19 allows the user to rotate the photo by setting an angle; border adding, which allows the user to
20 decorate the edge of the photo in a certain shape; overlap, which allows the user to overlap
21 another picture on top of the photo; overlapping a message on top of the photo, which allows the
22 user to insert a desired message on top of the photo; reducing and enlarging the original, which
23 allows the user to reduce or enlarge the size of the photo; copying a photo to multiple pictures,
24 which allows the user to copy a photo to more than one picture; and enlarging and reducing a
25 specific area, which allows the user to enlarge or reduce only a certain area of the photo.

Figures

Figure 1

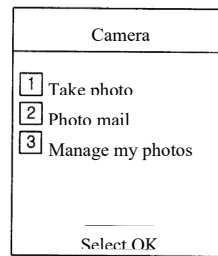


Figure 2

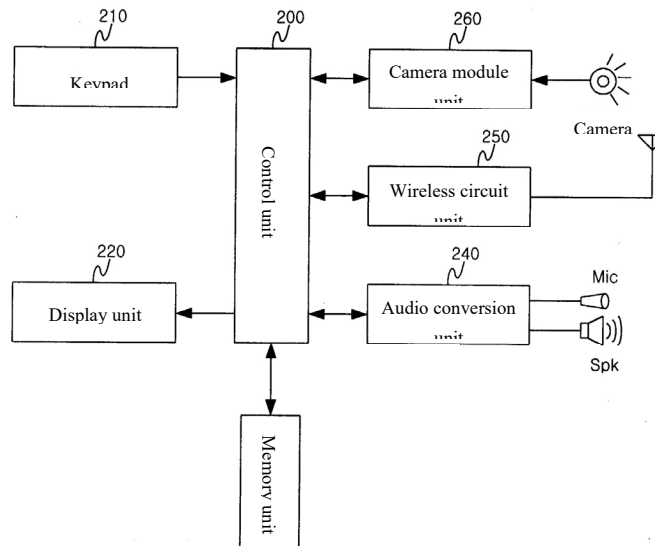


Figure 3

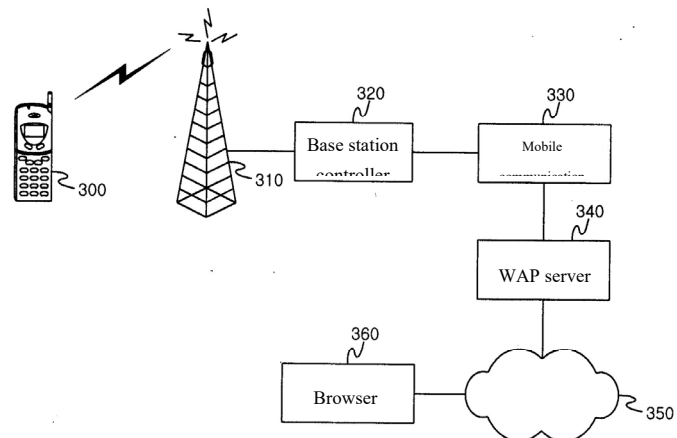


Figure 4

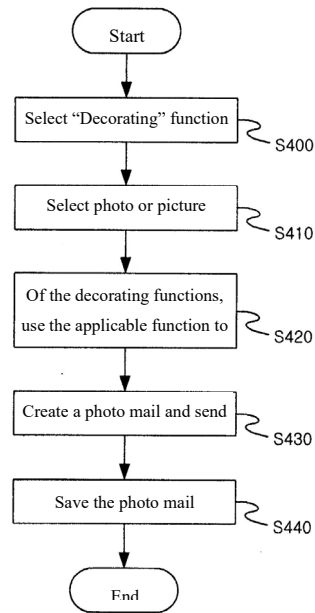


Figure 5a

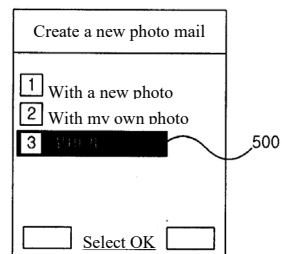


Figure 5b

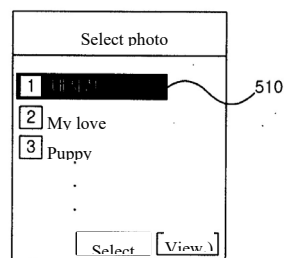


Figure 5c

Decorating	
1	Flip the screen
2	Angle rotation
3	Add a border
4	Overlap a different picture
5	Overlap a message on top of the photo
6	Reduce or enlarge the original
7	Conv to several pictures
8	Enlarge or reduce a certain area

Figure 5d

Overlap a message on top of the photo
Picture
Write the message to overlap
Fall is over! ----- ----- -----

Figure 6

Create a photo mail
Picture + Message
Recipient sky@... 000-000-0000 ...



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July 10, 2025

[DATE]

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