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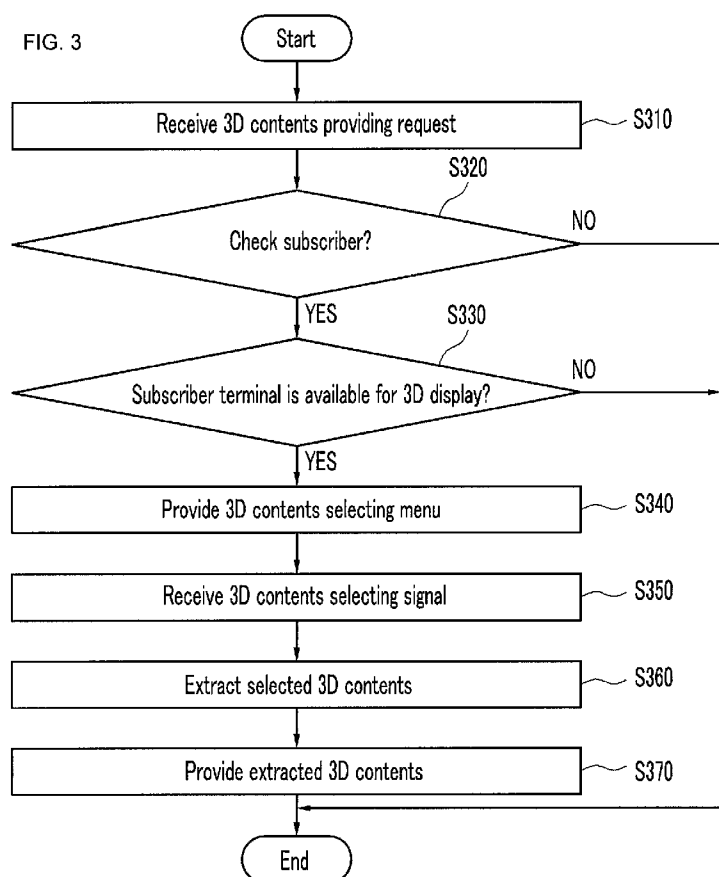
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(54) Title: SERVER FOR PROVIDING THREE-DIMENSIONAL CONTENTS AND METHOD THEREOF, AND TERMINAL FOR THREE-DIMENSIONAL DISPLAY

FIG. 3



(57) Abstract: The present invention relates to a 3D contents providing service. A 3D contents providing server includes a 3D contents providing request receiver for receiving a 3D contents providing request through a communication network, a subscriber manager for checking a communication terminal to which the 3D contents will be provided when the 3D contents providing request is received, a 3D contents selecting extractor for receiving 3D contents selecting information to be provided to the checked communication terminal and extracting the selected 3D contents, and a 3D contents provider for providing the extracted 3D contents to the communication terminal, and the 3D contents include side information provided to the communication terminal and output by the communication terminal.



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【SPECIFICATION】**【Invention Title】****SERVER FOR PROVIDING THREE-DIMENSIONAL CONTENTS AND
METHOD THEREOF, AND TERMINAL FOR THREE-DIMENSIONAL DISPLAY**5 **【Technical Field】**

The present invention relates to a 3-dimensional (3D) contents providing service. More particularly, the present invention relates to a 3D contents providing server and method for providing 3D contents to a communication terminal available for 3D display, and a 3D display communication terminal.

10 **【Background Art】**

A current mobile phone has a main display for outputting information on the front surface. Also, the mobile phone may have two displays to be used for different purposes.

A user of the mobile phone may differently configure a background screen
15 output to the mobile phone screen in order to distinguish the mobile phone of the user from that of another user, or may change the external case to identify the user from another user.

Users' demands for a service that enables expression of the individual character of the mobile phone user have increased.

20 The mobile phone uses one or two displays to use additional services as well as the mobile communication service.

However, the mobile phone has a limit of showing all mobile communication services through one or two displays because the display size is

small.

The above information disclosed in this Background section is only for enhancement of understanding of the background of the invention and therefore it may contain information that does not form the prior art that is already known in
5 this country to a person of ordinary skill in the art.

【DETAILED DESCRIPTION】

【Technical Problem】

The present invention has been made in an effort to provide a 3D contents providing server and method for showing the character of a communication
10 terminal user by using a communication terminal for outputting 3D contents, and a 3D display communication terminal.

Also, the present invention has been made in another effort to provide a 3D contents providing server and method for generating various new businesses by providing respective 3D contents to a communication terminal for outputting
15 3D contents and providing convenience to the user, and a 3D display communication terminal.

【Technical Solution】

An exemplary embodiment of the present invention provides a 3D contents providing server for providing a 3D contents providing service including:
20 a 3D contents providing request receiver for receiving a 3D contents providing request through a communication network; a subscriber manager for checking a communication terminal for receiving the 3D contents when the 3D contents providing request is received; a 3D contents selecting extractor for receiving 3D

contents selecting information to be provided to the checked communication terminal, and extracting corresponding 3D contents; and a 3D contents provider for providing the extracted 3D contents to the communication terminal, wherein the 3D contents includes side information to be provided to the communication
5 terminal and to be output by the communication terminal.

Another embodiment of the present invention provides a method for a 3D contents providing server to provide 3D contents including: receiving a 3D contents providing request through a communication network; checking a communication terminal to which the 3D contents will be provided; receiving 3D
10 contents selecting information to be provided to the checked communication terminal, and extracting corresponding 3D contents; providing the extracted 3D contents to the communication terminal, wherein the 3D contents include side information that is provided to the communication terminal and is then output by the communication terminal.

15 Yet another embodiment of the present invention provides a communication terminal for generating 3D contents including: a 3D contents receiver for receiving 3D contents from a 3D contents providing server; and a 3D contents display manager for analyzing side information included in the received 3D contents, and respectively outputting the received 3D contents on the side
20 corresponding to the side information.

According to an embodiment of the present invention, a method for a communication terminal to provide 3D contents includes: receiving 3D contents from a 3D contents providing server; and analyzing side information included in

the received 3D contents, and respectively outputting the received 3D contents to the side that corresponds to the side information.

【Brief Description of the Drawings】

5 FIG. 1 shows a schematic network diagram for a 3D contents providing service according to an exemplary embodiment of the present invention.

FIG. 2 shows a block diagram of a 3D contents providing server according to an exemplary embodiment of the present invention.

10 FIG. 3 shows a flowchart of a 3D contents providing method according to an exemplary embodiment of the present invention.

FIG. 4 shows a flowchart of a 3D contents providing method according to another exemplary embodiment of the present invention.

FIG. 5 shows a block diagram of a 3D display communication terminal according to an exemplary embodiment of the present invention.

15 FIG. 6 shows a flowchart of a 3D contents providing method by a 3D display communication terminal according to an exemplary embodiment of the present invention.

FIG. 7 shows a 3D contents providing method according to an exemplary embodiment of the present invention.

20 FIG. 8 shows a 3D display communication terminal according to an exemplary embodiment of the present invention.

【Best Mode】

In the following detailed description, only certain exemplary embodiments

of the present invention have been shown and described, simply by way of illustration. As those skilled in the art would realize, the described embodiments may be modified in various different ways, all without departing from the spirit or scope of the present invention. Accordingly, the drawings and description are to
5 be regarded as illustrative in nature and not restrictive. Like reference numerals designate like elements throughout the specification.

The communication terminal 100 will be assumed to have six sides, and the present invention is applicable to various formats of communication terminal 100 such as a circular terminal, or a terminal with eight sides.

10 FIG. 1 shows a schematic diagram of a 3D contents providing service system for a 3D contents providing service according to an exemplary embodiment of the present invention.

Referring to FIG. 1, the 3D contents providing service system includes a communication terminal 100, a 3D contents providing server 200, and a 3D
15 contents request server 300.

The communication terminal 100 may be a communication terminal 100 having a display or a speaker on each side, such as a mobile phone or a personal digital assistant (PDA). Also, the communication terminal 100 may be a DMB terminal for receiving broadcasting information.

20 3D contents are transmitted to the DMB receiving terminal through a broadcasting channel to thus provide a 3D contents providing service.

The communication terminal 100 requests a 3D contents service from the 3D contents providing server 200 through the communication network.

The communication terminal 100 receives downloaded 3D contents from the 3D contents providing server 200 through the wireless network such as CDMA, W-CDMA, wireless LAN, portable Internet, and DMB, and outputs the 3D contents to the display or the speaker installed on each side.

5 The 3D contents providing server 200 receives a 3D contents request from the communication terminal 100 through the Internet or the mobile communication network, and provides 3D contents to a corresponding communication terminal 100.

Also, the 3D contents providing server 200 receives a 3D contents
10 providing request toward a predetermined communication terminal 100 from the 3D contents request server 300, and provides the 3D contents to the communication terminal 100. The 3D contents providing server 200 provides image information or video information displayed on each side of the communication terminal 100, or provides sound information broadcast by the
15 speaker.

The 3D contents are multimedia data output to the display on each side of the communication terminal 100.

For example, the 3D contents include images, videos, sound, and fragrance information.

20 The 3D contents include type information of the 3D contents to be output to each side of the communication terminal 100 and side information to which the 3D contents will be output.

For example, part of a data field of the 3D contents stores 3-bit type

information (e.g., 001 image, 010 video, 011 sound, and 100 fragrance) and 3-bit side information (000 front side, 001 rear side, 010 left side, 011 right side, 100 top side, and 101 rear side).

The 3D contents can configure a united single piece of multimedia data
5 generated by having combined multimedia data on the respective sides (e.g., a 3D image generated by combining data on six sides), and the corresponding contents can be reconfigured to be a format easily understandable by the user.

For example, when the 3D contents are provided from a mobile shopping server to the communication terminal 100, 3D product information can be output
10 by a united image on the six sides.

The 3D contents can be configured in a format for outputting different information to each display without being united into multimedia data on the respective sides.

The 3D contents request server 300 requests the 3D contents providing
15 server 200 to provide 3D contents to a specific communication terminal 100.

For example, the 3D contents request server 300 can be a shopping server for providing 3D product information to the communication terminal 100.

The 3D contents request server 300 requests the 3D contents providing server 200 to provide the 3D contents to the communication terminal 100
20 according to a request by the communication terminal 100 or forcibly.

The 3D contents request server 300 transmits in advance the 3D contents to be provided to the communication terminal 100 so that the 3D contents may be stored in the 3D contents providing server 200.

FIG. 2 shows a block diagram of a 3D contents providing server according to an exemplary embodiment of the present invention.

Referring to FIG. 2, the 3D contents providing server 200 includes a 3D contents request receiver 210, a subscriber manager 220, a 3D contents
5 selecting extractor 230, a 3D contents provider 240, and a database 250.

The 3D contents request receiver 210 receives a 3D contents providing service request from the communication terminal 100 or the 3D contents request server 300 through the wired/wireless communication network.

The 3D contents request receiver 210 receives a subscription request on
10 a 3D contents providing service from the communication terminal 100 or the 3D contents request server 300, and receives subscriber information. Here, subscriber information includes subscriber profile information for billing, financial information, and information on the communication terminal 100 for providing a service.

15 The subscriber manager 220 authenticates a subscriber when receiving a 3D contents providing service request from the communication terminal 100 or the 3D contents request server 300.

The subscriber manager 220 determines whether the communication terminal 100 to which the 3D contents will be transmitted is a 3D display available
20 communication terminal 100 when the 3D contents service request is provided by the subscriber according to the subscriber authentication result. Here, the state of the 3D display available communication terminal 100 is determined by using the information of the communication terminal 100 that is received by inquiring of

a subscriber database of the mobile communication service provider by using subscriber information on the communication terminal 100 that is input when the subscription is requested or a telephone number of the communication terminal 100 to which the 3D contents will be provided.

5 The 3D contents selecting extractor 230 extracts corresponding 3D contents selected from the communication terminal 100 or the 3D contents request server 300.

 The 3D contents selecting extractor 230 can provide a 3D contents selecting menu to the communication terminal 100 so as to select 3D contents.

10 Also, the 3D contents selecting extractor 230 receives a selecting signal for the corresponding 3D contents from the 3D contents request server 300, and transmits it to the target communication terminal 100.

 Here, the selecting signal can be information for identifying the 3D contents generated by the 3D contents request server 300 and stored in the 3D
15 contents providing server 200.

 The 3D contents provider 240 provides the extracted 3D contents to the corresponding communication terminal 100.

 The database 250 stores subscriber information and 3D contents of the 3D contents providing service. Here, the 3D contents can be multimedia data
20 available for 3D display on the respective sides in the communication terminal 100 available for display on the respective sides. The 3D contents include multimedia data type information and information on the side to be output.

 For example, as shown in FIG. 8, the 3D contents can be provided as a

single united image generated by combining six image information so that the displays on the six sides of the communication terminal 100 may output the front, rear, left, and right images of a cup in the case of outputting an image of the cup.

For example, movements of back/forth/left/right/up/down by one image of
5 the 3D contents are respectively output to the six side displays of the communication terminal 100 to provide an image that is generated by uniting six image information.

FIG. 3 shows a flowchart of a 3D contents providing method according to an exemplary embodiment of the present invention.

10 The 3D contents providing method according to the embodiment of the present invention includes a method for providing 3D contents to the communication terminal 100 from the terminal of a desktop computer through the Internet, and a method for receiving 3D contents from the communication terminal 100 through the mobile communication network.

15 The 3D contents providing method for the terminal 100 such as a desktop computer to request 3D contents from the 3D contents providing server 200 through the Internet and transmitting the selected 3D contents to the communication terminal 100 will now be mainly described, and the method for the terminal 100 to directly receive the 3D contents through the mobile
20 communication network.

Referring to FIG. 3, the 3D contents providing server 200 receives a 3D contents providing request signal from a terminal such as a desktop computer (S310).

The 3D contents providing server 200 authenticates a subscriber of the terminal having requested 3D contents provision (S320). Here, the subscriber authentication method includes a generally known method (e.g., a method for checking an ID and a password). However, subscriber authentication is applied
5 to the fixed monthly pay service in the communication service, and since the number of the terminal having requested 3D contents is generally billed when a 3D contents provision is requested, the subscriber authentication process of S320 can be processed as an option.

When the user of the terminal is found to be a subscriber according to the
10 subscriber authentication result, the 3D contents providing server 200 determines whether the communication terminal 100 to which the 3D contents will be provided is a terminal available for outputting 3D contents by using the 3D contents (S330).

Here, subscriber information or information on the communication
15 terminal 100 (type information of the communication terminal 100, version information, or information on functions to be provided by the terminal) stored in the client database of the mobile communication service provider can be used when determining whether it is a communication terminal 100 available for outputting 3D contents.

20 The 3D contents providing server 200 provides a menu for selecting 3D contents to the communication terminal 100 (S340). The menu for selecting the 3D contents is configured to select multimedia information to be output to the respective sides of the communication terminal 100 as shown in FIG. 7.

For example, the menu for selecting contents can be configured with a menu for selecting a type of 3D contents and side information on which the selected 3D contents will be output. Also, a 3D contents set configured by a single theme can be selected.

5 The 3D contents providing server 200 receives a 3D contents selecting signal from the communication terminal 100 (S350).

The 3D contents providing server 200 extracts the selected 3D contents from the database 250 (S360).

10 The 3D contents providing server 200 provides the extracted 3D contents to the communication terminal 100 (S370).

The communication terminal 100 receives 3D contents from the 3D contents providing server 200, analyzes them, checks multimedia data type information and side information to be output, and respectively the corresponding 3D contents to the corresponding sides.

15 Also, the communication terminal 100 can transmit the 3D contents to another communication terminal by using a wireless LAN or a cable.

FIG. 4 shows a flowchart of a 3D contents providing method according to another exemplary embodiment of the present invention.

20 A 3D contents providing method for the 3D contents request server 300 to request 3D contents from the 3D contents providing server 200 through the wired communication network and to transmit the same to the communication terminal 100 will now be described.

The 3D contents providing server 200 receives a 3D contents providing

request signal from the 3D contents request server 300 (S410).

The 3D contents providing server 200 authenticates a subscriber of the 3D contents request server 300 having requested 3D contents provision (S420).

When the user of the 3D contents request server 300 is a subscriber
5 according to the subscriber authentication result, the 3D contents providing server 200 determines whether the communication terminal 100 is a communication terminal 100 available for outputting 3D contents (S430).

Here, information on the communication terminal 100 (communication terminal type or version information) stored in the client database of the mobile
10 communication service provider can be used to determine whether it is a communication terminal 100 available for outputting 3D contents.

The 3D contents providing server 200 extracts the 3D contents selected by the 3D contents request server 300 from the database 250 (S440). Here, the 3D contents includes information on the side on which the 3D contents will be
15 displayed and multimedia data type information (e.g., the contents type is an image, video, sound, or fragrance).

The 3D contents providing server 200 provides the extracted 3D contents to the communication terminal 100 (S450).

The communication terminal 100 receives the 3D contents from the 3D
20 contents providing server 200, analyzes such, checks multimedia type information and side information to be output, and outputs the 3D contents to the corresponding sides.

FIG. 5 shows a block diagram of a communication terminal 100 for

outputting 3D contents according to an exemplary embodiment of the present invention.

Referring to FIG. 5, the communication terminal 100 includes a 3D contents requester 110, a 3D contents selector 120, a 3D contents receiver 130,
5 a 3D contents display manager 140, and a storage unit 150.

The 3D contents requester 110 requests a 3D contents providing service from the 3D contents providing server 200 through the communication network.

The 3D contents selector 120 transmits a desired 3D contents selecting signal to the 3D contents providing server 200.

10 When the 3D contents providing server 200 authenticates the subscriber, the 3D contents selector 120 selects the 3D contents to be downloaded through the menu for selecting 3D contents from the 3D contents providing server 200. Here, the menu for selecting the 3D contents can be output to a specific side of the communication terminal 100 through a user interface, and it can be
15 configured to select a 3D contents multimedia data type, corresponding 3D contents, and the side to which the corresponding 3D contents will be applied.

The 3D contents receiver 130 receives the 3D contents from the 3D contents providing server 200.

The 3D contents receiver 130 can directly receive the 3D contents from
20 the 3D contents providing server 200 through the mobile communication network. In addition, the 3D contents receiver 130 can receive the 3D contents from another communication terminal having downloaded the 3D contents by using a wireless local communication such as Bluetooth, or a cable.

The 3D contents receiver 130 receives display information (3D contents) of another communication terminal through wireless local communication when the other communication terminal is positioned near the 3D contents receiver 130. That is, when the communication terminal 100 approaches the other
5 communication terminal, the 3D contents receiver 130 receives display information of the other communication terminal and configures it as display information of the communication terminal 100.

The 3D contents display manager 140 analyzes the received 3D contents to check the multimedia type information of the 3D contents and side information
10 to be output, and generates an output that corresponds to the multimedia type of the corresponding side.

For example, when the multimedia type is sound, the 3D contents display manager 140 outputs corresponding 3D contents to the speaker installed on the side to be output, and when the multimedia type is an image, it displays a
15 corresponding image to the side to be output. Also, when the multimedia type is fragrance, the 3D contents display manager 140 outputs corresponding 3D contents to an installed fragrance generator. Here, the fragrance generator is a device for controlling natural fragrance or artificial fragrance to be generated or spread according to electrical signals by using generation material.

20 The 3D contents display manager 140 controls the speaker or the display on respective sides of the communication terminal 100.

Also, the 3D contents display manager 140 sets the positions of the sides according to the shape of the communication terminal 100. For example, when

the shape of the communication terminal 100 is cuboid, oval, circular, folder, or flip type, the 3D contents display manager 140 controls the display by setting the sides according to the shape.

The 3D display condition setter 150 presets the conditions that are output
5 to the sides by using the 3D contents stored in the communication terminal 100.

For example, the 3D display condition setter 150 can change the images that are output to the sides of the communication terminal 100 at regular time intervals.

That is, the 3D display condition setter 150 sets different 3D contents that
10 are output to the respective sides of the communication terminal 100 according to the time, position, or condition (brightness, volume of noise, temperature, contact, and fragrance) of the communication terminal 100 so that the sides of the communication terminal 100 may be differently displayed.

For example, the 3D display condition setter 150 can set the 3D contents
15 display condition by using time information so that the 3D contents may be differently output by division of morning and afternoon.

Also, the communication terminal 100 can include a position determiner 152, a temperature sensor 154, a brightness sensor 156, a noise sensor 158, a time measurer (not shown), a contact sensor (not shown), and a fragrance sensor
20 (not shown), respectively for sensing time, position, temperature, brightness, volume of size, contact, and fragrance from among the conditions.

The communication terminal 100 can set the 3D display condition by using position information so that the 3D contents may be differently output

according to the position (e.g., a district area) measured by the GPS receiver and the position determiner 152 including map information.

For example, the communication terminal 100 can display the movement of position according to the position by differentiating the outputs of the sides of the communication terminal 100.

Also, it is possible to display the 3D contents in cooperation with a GPS receiver and a camera depending on the condition so that the communication terminal 100 may display the shape of a shingle in a sand beach in summer.

In addition, it has been described that the corresponding sides of one thing are displayed on the entire sides (front/rear/left/right/top/bottom) of the communication terminal 100, and it is possible to provide various formats of 3D information by respectively controlling the 3D contents to be displayed on the respective side of the communication terminal 100 by the 3D display condition setter 150.

For example, the 3D display condition setter 150 can control 3D display information selected by the user (e.g., 3D display information downloaded from the server having various 3D contents) to be displayed on the respective sides of the communication terminal 100 according to the users so that even the same communication terminal 100 may be a communication device for an exclusive use for each person according to the users having the corresponding communication terminal 100.

Also, the 3D display condition setter 150 can control one side of the communication terminal 100 to be used as a display region for displaying the 3D

contents, and the other side to be used as a display region for displaying desired information.

Further, the 3D display condition setter 150 can control one side of the communication terminal 100 to be used as a display region for displaying the 3D
5 contents, and the other side to be used as an input region for receiving information from the user. The input region is touchable to input data in a like manner of the touch pad.

Also, when the service region of the mobile communication is extended from a person to a general device, the 3D display condition setter 150 can
10 determine the contents displayed to the sides of the communication terminal 100 as the function of personalized accessories.

For example, when an oval communication terminal 100 is positioned on the table as an ornament, the ornament displays various types of screens according to the time and conditions (temperature, brightness, volume of size,
15 and personal condition information), and performs the function corresponding to the user's touch inputs. Here, an additional device for determining the temperature, brightness, and personal condition information is to be installed in the communication terminal 100. For example, the communication terminal 100 can be displayed as a clock, as an ornament in another situation, and perform a
20 music player function and display the corresponding screen in a further situation.

Also, the combined images displayed on the respective sides of the communication terminal 100 basically show a single image of a thing, and the 3D display condition setter 150 can set the condition of dividing and displaying at

least two images of things to the respective sides of the communication terminal 100. For example, a dog image is displayed on the front side of the communication terminal 100 and a cat image is displayed on the rear side of the communication terminal 100 so that the things displayed on sides of the communication terminal 100 are the dog and the cat, and as a result, the images displayed to the communication terminal 100 can be a transformed image, that is an image having the front appearance of the dog and the rear appearance of the cat.

When the temperature measured by the temperature sensor 154 is exemplified, the communication terminal 100 can set the 3D contents display condition by using temperature information so that the 3D contents may be changed when the temperature is greater than 30 degrees centigrade. Here, a humidity sensor (not shown) for measuring temperature and humidity can be further included, and in this instance, the humidity together with the temperature is used to set the 3D contents display condition.

The communication terminal 100 can set the 3D contents display condition by using brightness information so as to change the 3D contents when the brightness is less than that measured by the brightness sensor 156, for example, 150 cd/m².

The communication terminal 100 can set the 3D contents display condition by using the volume of noise so as to change the 3D contents when the noise measured by the noise sensor 158 is greater than 70 dB.

The 3D contents displayed to the communication terminal 100 are either

3D contents preset by the communication terminal 100 or 3D contents downloaded in real-time from the server depending on the conditions such as the position, temperature, brightness, and volume of noise.

The communication terminal 100 can set the 3D contents display
5 condition so as to output the contents that correspond to specific fragrance with reference to fragrance information measured by the fragrance sensor (not shown).

The storage unit 160 stores menu information for selecting 3D contents, received 3D contents, and 3D contents display condition information.

10 FIG. 6 shows a flowchart of a 3D contents providing method by a 3D display communication terminal 100 according to an exemplary embodiment of the present invention.

The communication terminal 100 requests a 3D contents providing service from the 3D contents providing server 200 through the communication
15 network (S610).

The communication terminal 100 receives the menu for selecting 3D contents, and selects 3D contents to be downloaded (S620).

Here, the menu for selecting 3D contents can be output to a specific side of the communication terminal 100 through a user interface, and it can be
20 configured to select the multimedia type of the 3D contents, the corresponding 3D contents, and the side to which the corresponding 3D contents will be applied.

The communication terminal 100 receives the selected 3D contents from the 3D contents providing server 200 (S630).

The communication terminal 100 analyzes the received 3D contents (S640).

The communication terminal 100 checks the multimedia type information of the 3D contents and side information to be output according to the analysis
5 result, and generates the outputs that correspond to the multimedia type on the corresponding side (S650).

The communication terminal 100 outputs the corresponding 3D contents through the display or the speaker and sets the 3D display condition (S660).

The communication terminal 100 can output the 3D contents to the sides
10 of the communication terminal 100 in correspondence to the set condition (S670).

The communication terminal 100 can differently configure the respective sides of the communication terminal 100 by differently setting the 3D contents that are output to the sides of the communication terminal 100 according to the conditions such as time, position, or situation (brightness, volume of noise,
15 temperature, and fragrance). The communication terminal 100 can output the corresponding 3D contents to the installed fragrance generator when the multimedia type of the 3D contents is fragrance.

The present invention can express the character of the communication terminal user by using a communication terminal available for outputting 3D
20 contents of respective sides.

Also, the present invention generates various new businesses and provides convenience to the user since it provides 3D contents to the communication terminal available for outputting 3D contents.

While this invention has been described in connection with what is presently considered to be practical exemplary embodiments, it is to be understood that the invention is not limited to the disclosed embodiments, but, on the contrary, is intended to cover various modifications and equivalent
5 arrangements included within the spirit and scope of the appended claims.

【CLAIMS】**【Claim 1】**

A 3D contents providing server for providing a 3D contents providing service, the server comprising:

5 a 3D contents providing request receiver for receiving a 3D contents providing request through a communication network;

 a subscriber manager for checking a communication terminal for receiving the 3D contents when the 3D contents providing request is received;

 a 3D contents selecting extractor for receiving 3D contents selecting
10 information to be provided to the checked communication terminal, and extracting corresponding 3D contents; and

 a 3D contents provider for providing the extracted 3D contents to the communication terminal, wherein

 the 3D contents includes side information to be provided to the
15 communication terminal and to be output by the communication terminal.

【Claim 2】

The server of claim 1, wherein

 the 3D contents selecting extractor provides a menu for selecting the 3D
20 contents through a user interface of the communication terminal, and receives the selecting information input by the communication terminal.

【Claim 3】

The server of claim 1, wherein
the 3D contents are multimedia data including at least one of image, video,
sound, and fragrance.

5 **【Claim 4】**

The server of claim 3, wherein
the 3D contents further includes type information of the multimedia data.

【Claim 5】

10 The server of claim 1, wherein
the side information to be output is information for one side of the
communication terminal, and
the communication terminal installs at least one of a display, a speaker,
and a fragrance generator on each side.

15

【Claim 6】

A method for a 3D contents providing server to provide 3D contents
comprising:

receiving a 3D contents providing request through a communication
20 network;

checking a communication terminal to which the 3D contents will be
provided;

receiving 3D contents selecting information to be provided to the checked

communication terminal, and extracting corresponding 3D contents;

providing the extracted 3D contents to the communication terminal,

wherein

the 3D contents include side information that is provided to the
5 communication terminal and is then output to the communication terminal.

【Claim 7】

The method of claim 6, wherein

the receiving of a 3D contents providing request includes

10 receiving the 3D contents providing request from the communication
terminal through the communication network.

【Claim 8】

The method of claim 7, wherein

15 the checking of the communication terminal includes:

checking whether the communication terminal is a 3D contents providing
service subscribing terminal when the 3D contents providing request; and

checking whether the communication terminal is a terminal available for
outputting the 3D contents by using communication terminal information from
20 among subscriber information stored in a database when it is found to be a
subscribing terminal.

【Claim 9】

The method of claim 7, wherein
the extracting of the 3D contents includes:
providing a menu for selecting the 3D contents to the communication
terminal through a user interface;
5 receiving 3D contents selecting information selected by using the menu
from the communication terminal; and
extracting the 3D contents corresponding to the 3D contents selecting
information.

10 **【Claim 10】**

The method of claim 9, wherein
regarding the providing to the communication terminal,
the provided 3D contents further includes type information of the 3D
contents.

15

【Claim 11】

The method of claim 6, wherein
the receiving of the 3D contents providing request includes
receiving the 3D contents providing request from the communication
20 terminal or a 3D contents request server through a wired/wireless communication
network.

【Claim 12】

The method of claim 11, wherein

the checking of the communication terminal includes:

checking whether the communication terminal or the 3D contents request
server is a 3D contents providing service subscriber when the 3D contents
5 providing request is received;

receiving information of the communication terminal or the 3D contents
request server when it is found to be a subscriber according to the checking
result; and

checking whether the communication terminal or the 3D contents request
10 server is a terminal available for outputting the 3D contents by using the received
information.

【Claim 13】

A communication terminal for generating 3D contents comprising:

15 a 3D contents receiver for receiving 3D contents from a 3D contents
providing server; and

a 3D contents display manager for analyzing side information included in
the received 3D contents, and respectively outputting the received 3D contents
on the side corresponding to the side information.

20

【Claim 14】

The communication terminal of claim 13, further comprising:

a 3D contents requester for requesting the 3D contents from the 3D

contents providing server; and

a 3D contents selector for selecting the 3D contents.

【Claim 15】

5 The communication terminal of claim 13, wherein
the 3D contents display manager controls at least one of a display, a
speaker, and a fragrance generator installed on the respective sides of the
communication terminal so that the 3D contents may be output corresponding to
side information included in the 3D contents.

10

【Claim 16】

 The communication terminal of claim 15, wherein
the 3D contents display manager provides a united image generated by
combining the images that are output to the displays of the sides of the
15 communication terminal.

【Claim 17】

 The communication terminal of claim 13, wherein the communication
terminal further includes:
20 a 3D display condition setter for receiving a condition for the output 3D
contents; and
the 3D contents display manager outputs the 3D contents according to the
input condition.

【Claim 18】

The communication terminal of claim 17, wherein
the 3D display condition setter sets the condition so that images of at least
two things are separately displayed on the entire side of the communication
5 terminal and the images displayed on the respective sides of the communication
terminal are combined to provide a changed image.

【Claim 19】

The communication terminal of claim 17, wherein
10 the input condition is time information, and the 3D contents display
manager outputs predetermined 3D contents according to the input time
information.

【Claim 20】

15 The communication terminal of claim 17, wherein
the communication terminal further includes a position determiner, the
condition is position information, and the 3D contents display manager outputs 3D
contents that are preset or real-time downloaded according to the position
information.

20

【Claim 21】

The communication terminal of claim 17, wherein
the communication terminal further includes a temperature sensor, and

the condition is temperature information, and the 3D contents display manager outputs 3D contents that are preset or real-time downloaded according to the temperature information.

5 **【Claim 22】**

 The communication terminal of claim 17, wherein
 the communication terminal further includes a brightness sensor, the
condition is brightness information, and the 3D contents display manager outputs
3D contents that are preset or real-time downloaded according to the brightness
10 information.

【Claim 23】

 The communication terminal of claim 17, wherein
 the communication terminal further includes a noise sensor, the condition
15 is information on the volume of noise, and the 3D contents display manager
outputs 3D contents that are preset or real-time downloaded according to the
information on the volume of noise.

【Claim 24】

20 The communication terminal of claim 17, wherein
 the 3D display condition setter sets the condition so that the 3D contents
may be displayed on one side of the communication terminal and information set
by the user may be displayed on another side of the communication terminal.

【Claim 25】

The communication terminal of claim 17, wherein
the 3D display condition setter sets the condition so that the 3D contents
may be displayed on one side of the communication terminal and another side
5 may be an input region for receiving information from the user of the
communication terminal.

【Claim 26】

A method for a communication terminal to provide 3D contents
10 comprising:

receiving 3D contents from a 3D contents providing server; and
analyzing side information included in the received 3D contents, and
respectively outputting the received 3D contents to the side that corresponds to
the side information.

15

【Claim 27】

The method of claim 26, further including,
before the receiving of the 3D contents,
requesting the 3D contents from the 3D contents providing server; and
20 selecting the 3D contents.

【Claim 28】

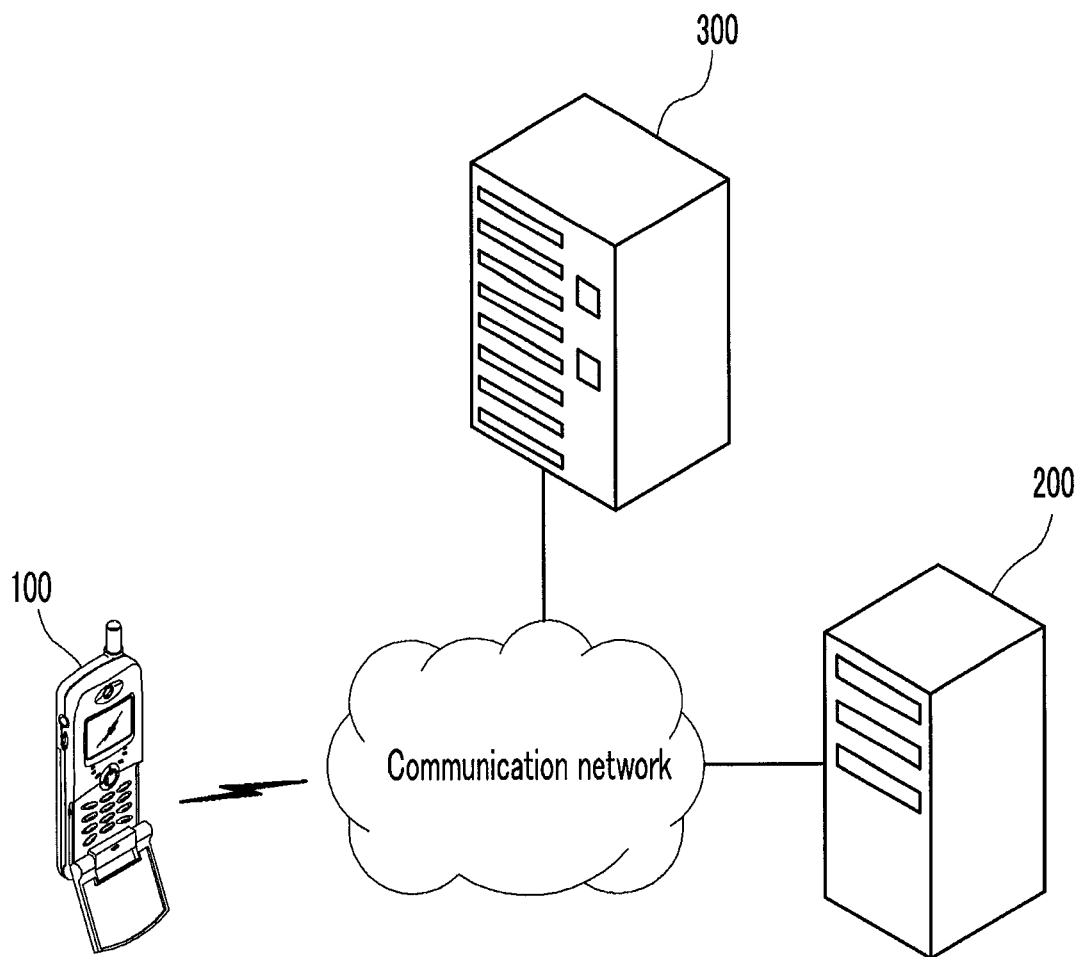
The method of claim 27, further including,

before the selecting of the 3D contents,
receiving menu information for selecting the 3D contents from the 3D
contents providing server;
outputting the menu information through a user interface; and
5 receiving information for selecting the 3D contents by using the output
menu information.

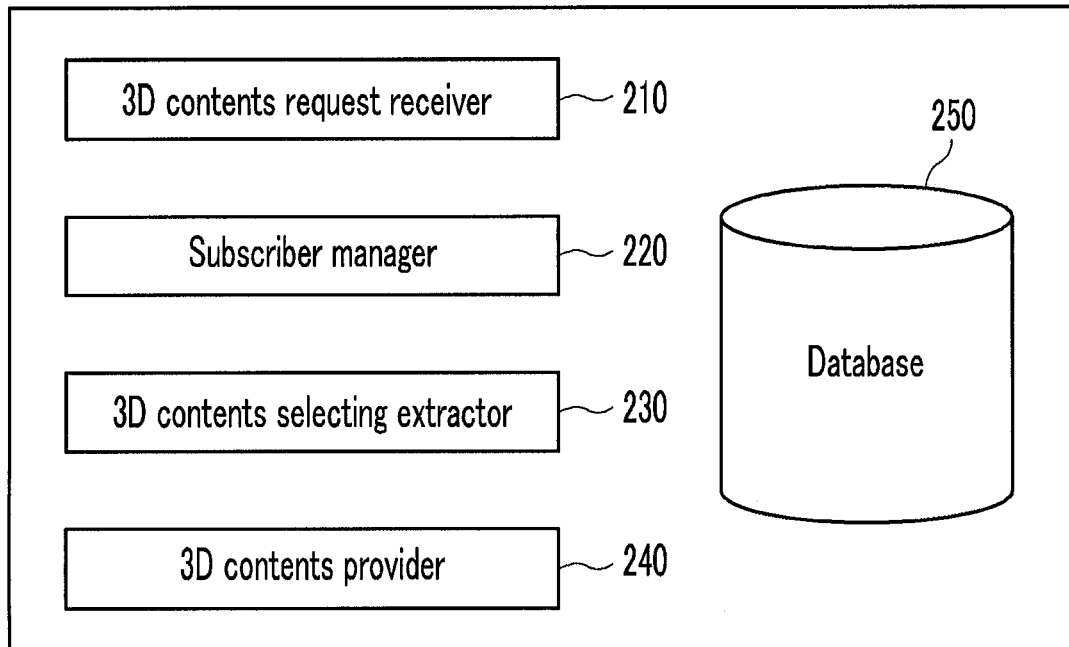
【Claim 29】

The method of claim 26, wherein the method further includes,
10 after outputting the 3D contents,
receiving an output condition of the 3D contents; and
outputting the input contents according to the input condition, wherein
the input condition includes at least one of time information, position
information, temperature information, brightness information, information on the
15 volume of noise, and contact information.

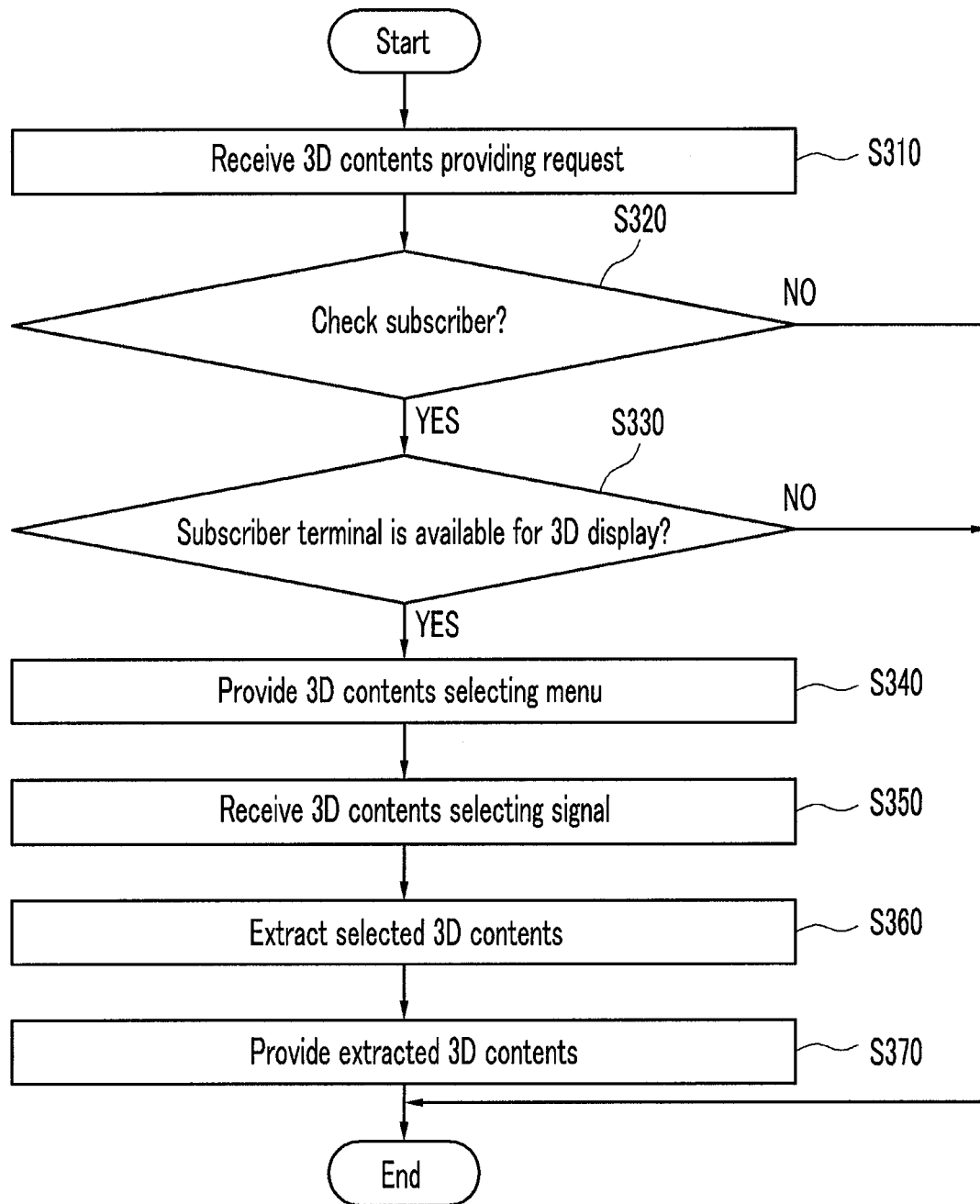
【FIG. 1】



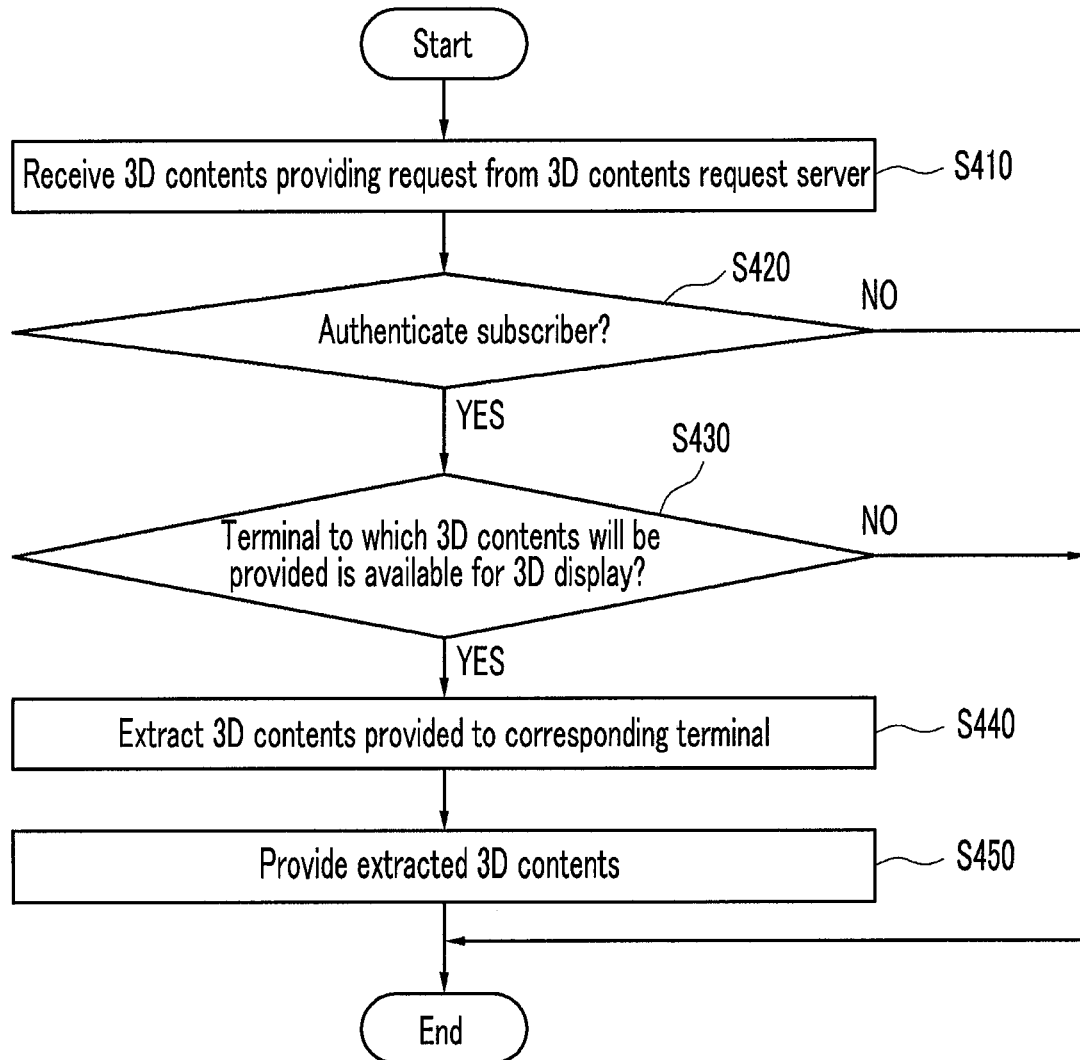
【FIG. 2】

200

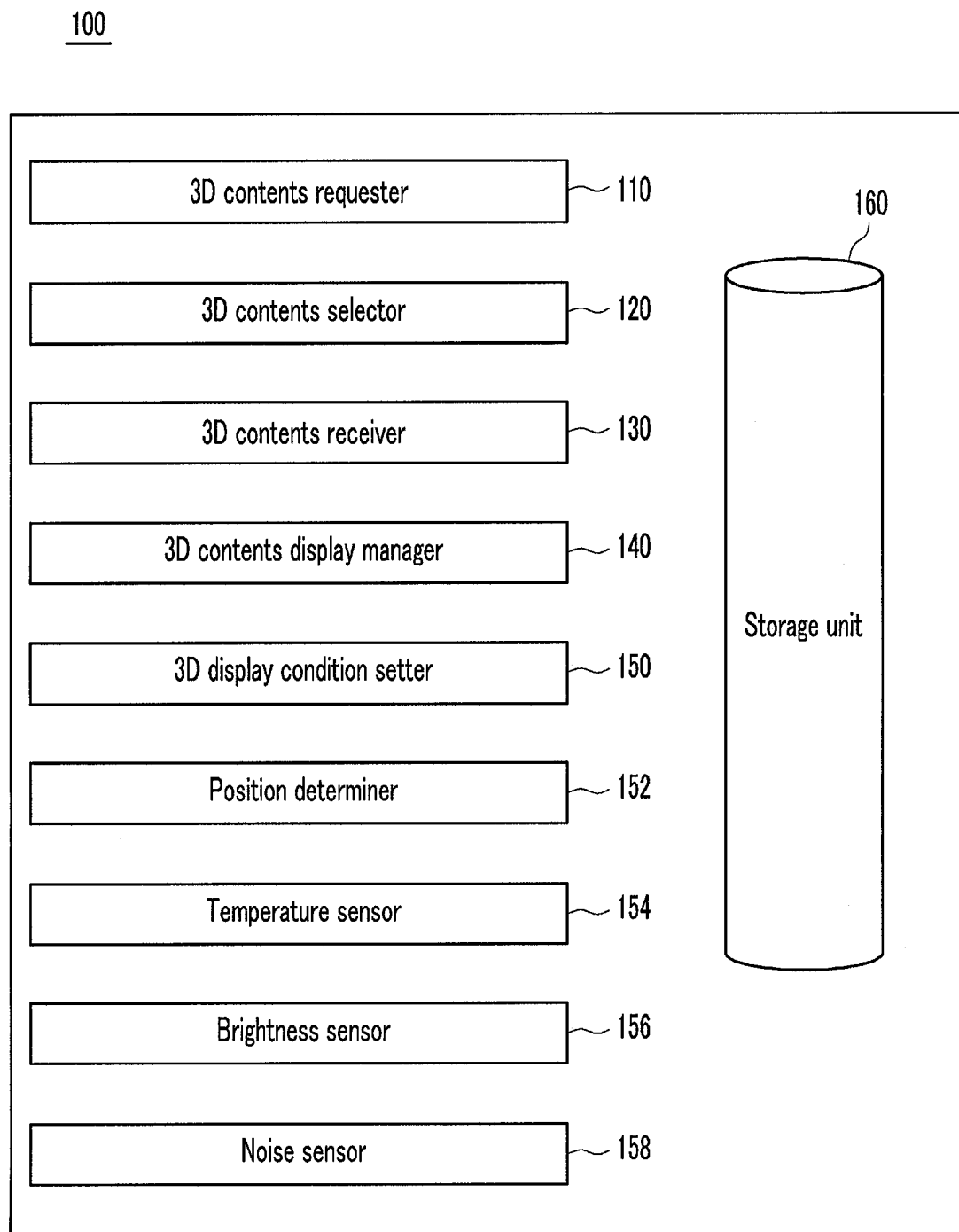
【FIG. 3】



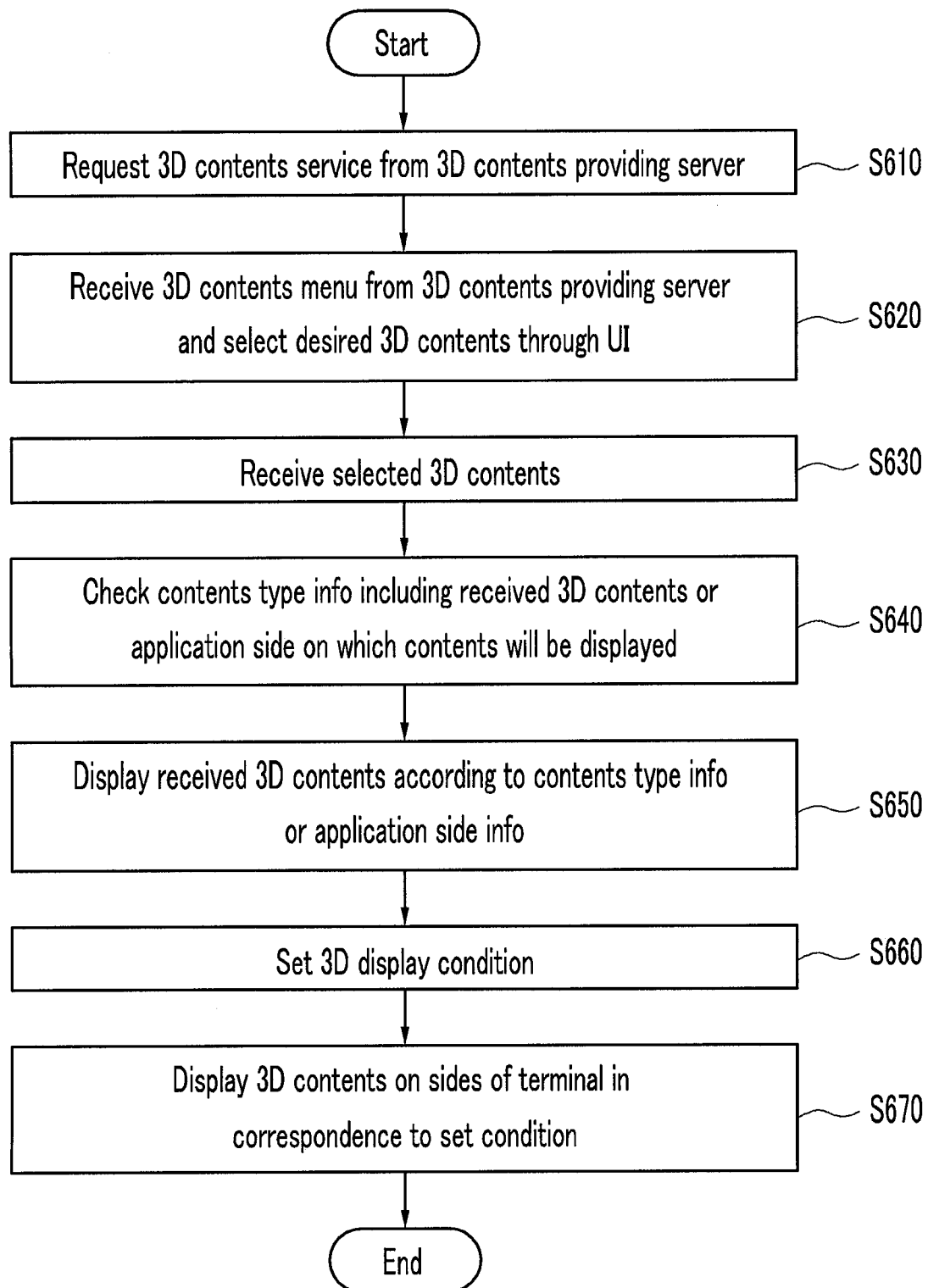
【FIG. 4】



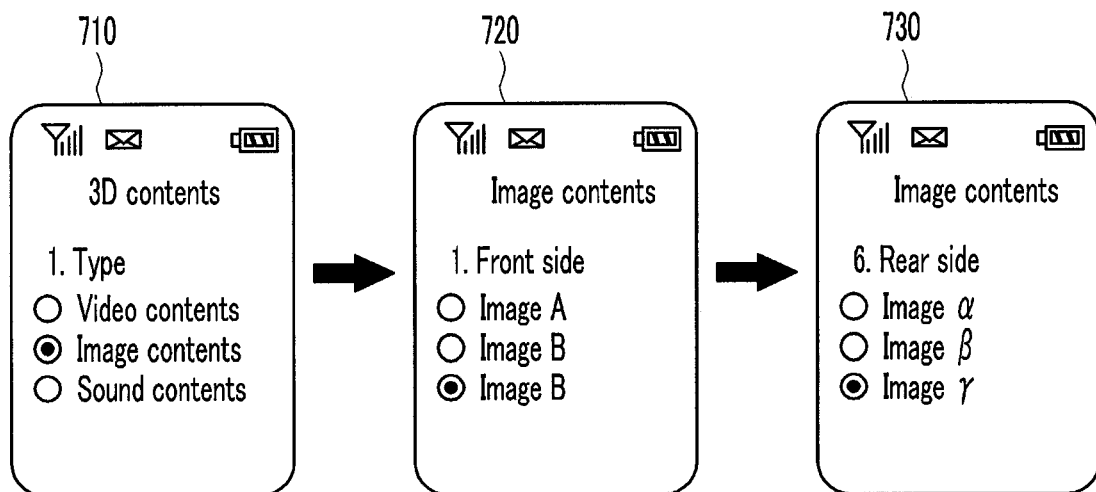
【FIG. 5】



【FIG. 6】



【FIG. 7】



【FIG. 8】

