

area size can be stored in the memory 160. And, a zoom-out extent per area size can be set by a user or the mobile terminal 100.

[0104] Moreover, a zoom-out extent per area size can be set inversely proportional to an area size. For instance, a zoom-out extent corresponding to a radius '1 cm'/'2 cm' of a circle forming an area may correspond to '1/4 time'/'1/2 time'. Hence, it is able to set the zoom-out extent smaller as the area size gets larger. On the contrary, it is understood that the zoom-out extent per the area size can be set proportional to the area size. The mobile terminal 100 is able to zoom out an image displayed on the screen to a zoom-out extent proportional to a speed of a drag action for setting an area.

[0105] For this, a process for zooming out an image to correspond to an area setting action for the touchscreen is explained with reference to FIG. 14 in aspect of an image configuration as follows. In FIG. 14, assume that a map, on which a moving route of the mobile terminal 100 is marked, is displayed as a result of driving the position-location module 115.

[0106] Referring to FIG. 14, a user draws a circle 1411 formed counterclockwise on the touchscreen using a pointer 1413. In this case, the mobile terminal 100 recognizes a speed of a drag action for setting a center 1411-1 of the circle 1411 and a size of the circle 1411. If a drag speed is '5 m/s', for example, the terminal 100 zooms out an image displayed FIG. 14(a) centering on the center 1411-1 to a zoom-out extent corresponding to the drag speed '5 m/s' and then displays a whole image including the zoomed-out image as a part thereof.

[0107] If a drag speed is '10 m/s', for example, the terminal 100 zooms out an image centering on the center 1411-1 to a zoom-out extent corresponding to the drag speed '10 m/s' and then displays a whole image including the zoomed-out image as a part thereof. In this case, a zoom-out extent per drag speed can be stored in the memory 160. And, a zoom-out extent per drag speed can be set by a user or the terminal 100.

[0108] Moreover, a zoom-out extent per drag speed can be set proportional to a drag speed. For instance, a zoom-out extent corresponding to a drag speed '5 m/s'/'10 m/s' may correspond to '1/2 time'/'1/4 time', for example. Hence, it is able to set the zoom-out extent greater as the drag speed gets higher. On the contrary, it is understood that the zoom-out extent per the drag speed can be set inverse proportional to the drag speed.

[0109] Meanwhile, the mobile terminal 100 is able to perform the steps S610 to S630 (image zooming-in and displaying steps) after execution of the steps S640 to S660 (image zooming-out and displaying steps). This is because the present disclosure can perform the image zooming-out action and the image zooming-in action by changing their orders.

[0110] In the following description, an image zoom-in/zoom-out process according to a touch pattern for a touchscreen according to one embodiment is explained with reference to FIGS. 15 to 17. In the following description, assume that an area for image zoom-in/out is an inner area of a circle drawn by a user. In FIGS. 15 to 17, assume that a map, on which a moving route of the mobile terminal 100 is marked, is displayed as a result of driving the position-location module 115.

[0111] FIG. 15 is a diagram for a first screen configuration for a zoom-in/out process in accordance with a touch pattern on a touchscreen according to one embodiment. Referring to FIG. 15, in case that a circle 1511 for an area setting is drawn

'clockwise' on the touchscreen, the mobile terminal 100 recognizes a touch action as an image zoom-in command and then displays an image 1510 by zooming in the image 1510.

[0112] In case that a circle 1511 for an area setting is drawn 'counterclockwise' on the touchscreen, the mobile terminal 100 recognizes a touch action as an image zoom-out command and then displays an image 1510 by zooming out the image 1510. FIG. 16 is a diagram for a second screen configuration for a zoom-in/out process in accordance with a touch pattern on a touchscreen according to one embodiment.

[0113] Referring to FIG. 16, after a circle 1611 for an area setting has been drawn on the touchscreen, if a point of ending a drag action of a pointer 1613 is located outside the circle 1611, the mobile terminal 100 recognizes a touch action as an image zoom-in command and then displays an image 1610 by zooming in the image 1610. After a circle 1611 for an area setting has been drawn on the touchscreen, if a point of ending a drag action of a pointer 1613 is located within the circle 1611, the mobile terminal 100 recognizes a touch action as an image zoom-out command and then displays an image 1610 by zooming out the image 1610.

[0114] FIG. 17 is a diagram for a third screen configuration for a zoom-in/out process in accordance with a touch pattern on a touchscreen according to one embodiment. Referring to FIG. 17, after a circle 1711 for an area setting has been drawn on the touchscreen, if a specific point of an outer area of the circle 1711 is touched by a pointer 1713, the mobile terminal 100 recognizes a touch action as an image zoom-in command and then displays an image 1710 displayed in the state by zooming in the image 1710.

[0115] After a circle 1711 for an area setting has been drawn on the touchscreen, if a specific point of an inner area of the circle 1711 is touched by a pointer 1713[d], the mobile terminal 100 recognizes a touch action as an image zoom-out command and then displays an image 1710 displayed in the state (a) by zooming out the image 1710[e].

[0116] According to one embodiment, the above-described terminal screen size controlling method can be implemented in a program recorded medium as computer-readable codes. The computer-readable media include all kinds of recording devices in which data readable by a computer system are stored. The computer-readable media include ROM, RAM, CD-ROM, magnetic tapes, floppy discs, optical data storage devices, and the like for example and also include carrier-wave type implementations (e.g., transmission via Internet). And, the computer can include the controller 180 of the mobile terminal 100.

[0117] Accordingly, the present disclosure provides the following effects and/or advantages. In one embodiment, the present device zooms in or out an image displayed on a touchscreen to correspond to an area setting action performed on the touchscreen. In one embodiment, the present device is able to freely control a zoom-in or zoom-out extent of an image to correspond to an area setting action performed on a touchscreen.

[0118] 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 this disclosure. Thus, it is intended that the present disclosure covers the modifications and variations of this disclosure provided they come within the scope of the appended claims and their equivalents.