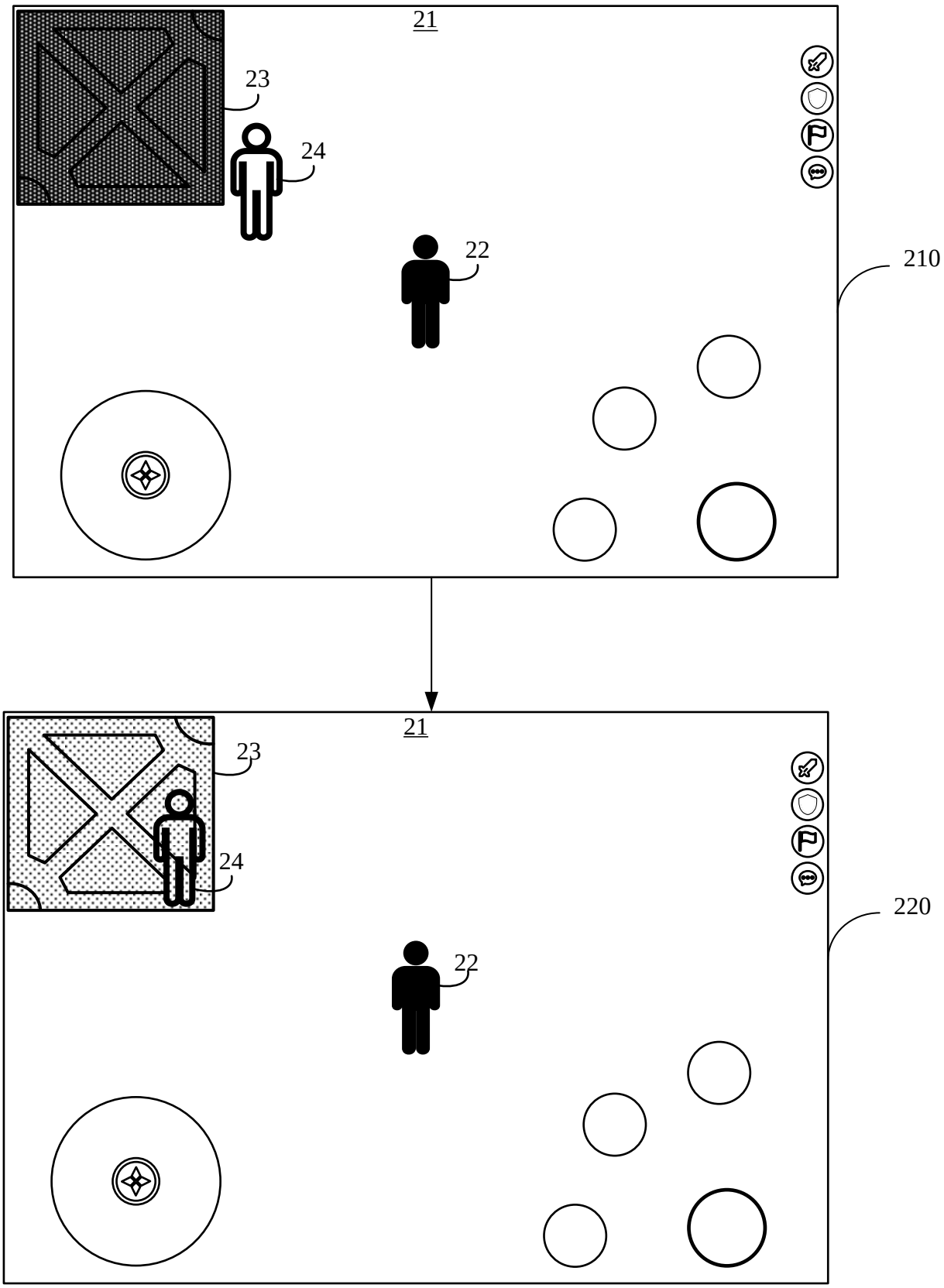


FIG. 1

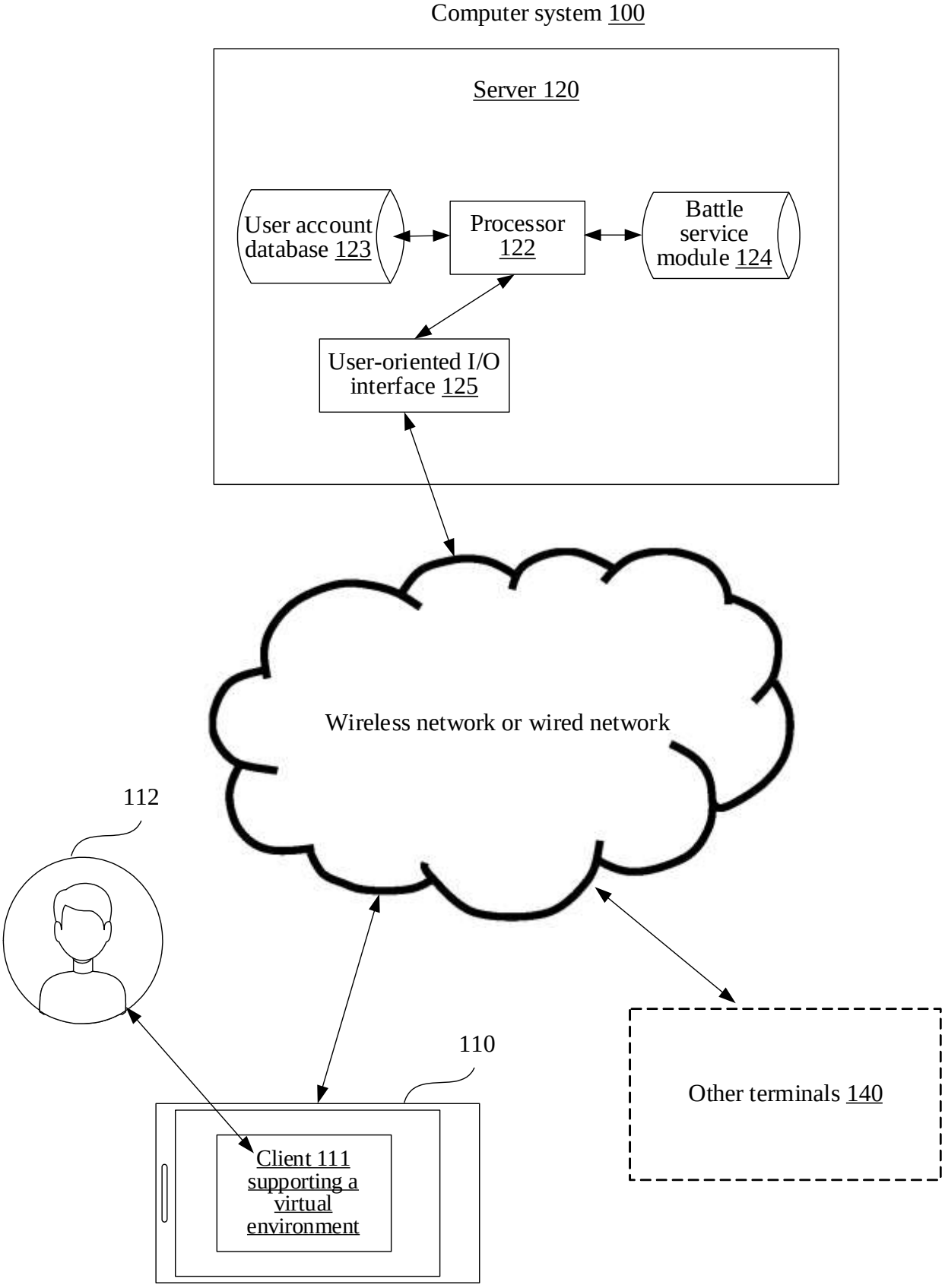

Computer system 100
Server 120
User account database 123
Processor 122
Battle service module 124
User-oriented I/O interface 125
Wireless network or wired network
112
110
Client 111 supporting a virtual environment
Other terminals 140

FIG. 2

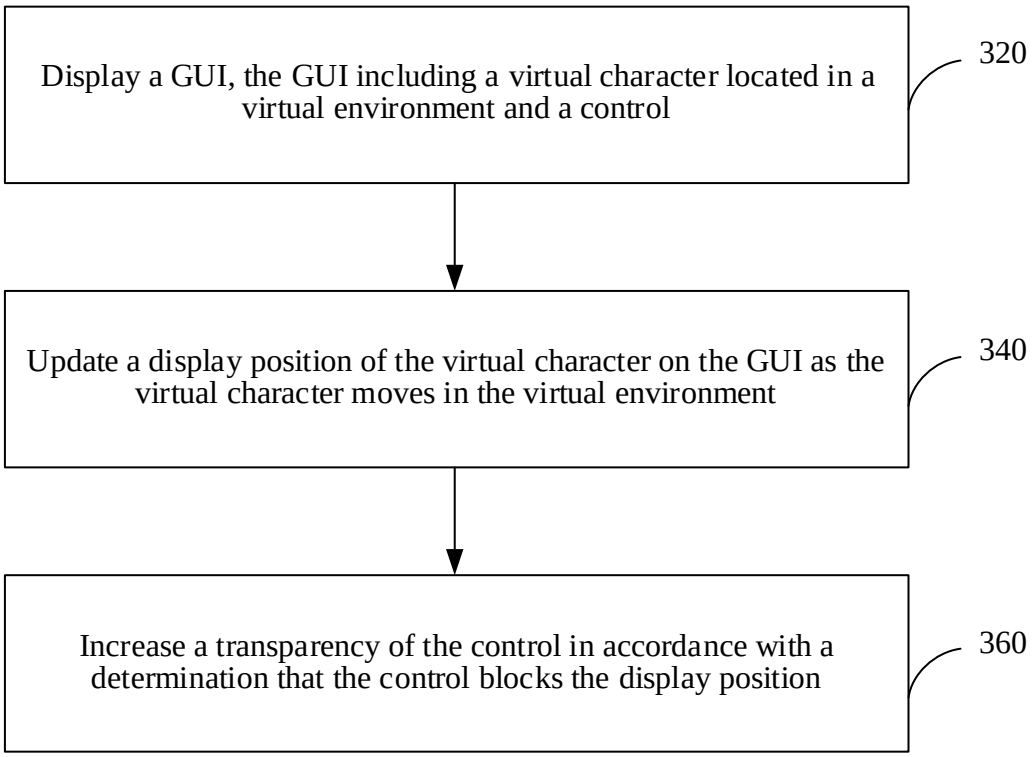

Display a GUI, the GUI including a virtual character located in a virtual environment and a control
320
Update a display position of the virtual character on the GUI as the virtual character moves in the virtual environment
340
Increase a transparency of the control in accordance with a determination that the control blocks the display position
360

FIG. 3

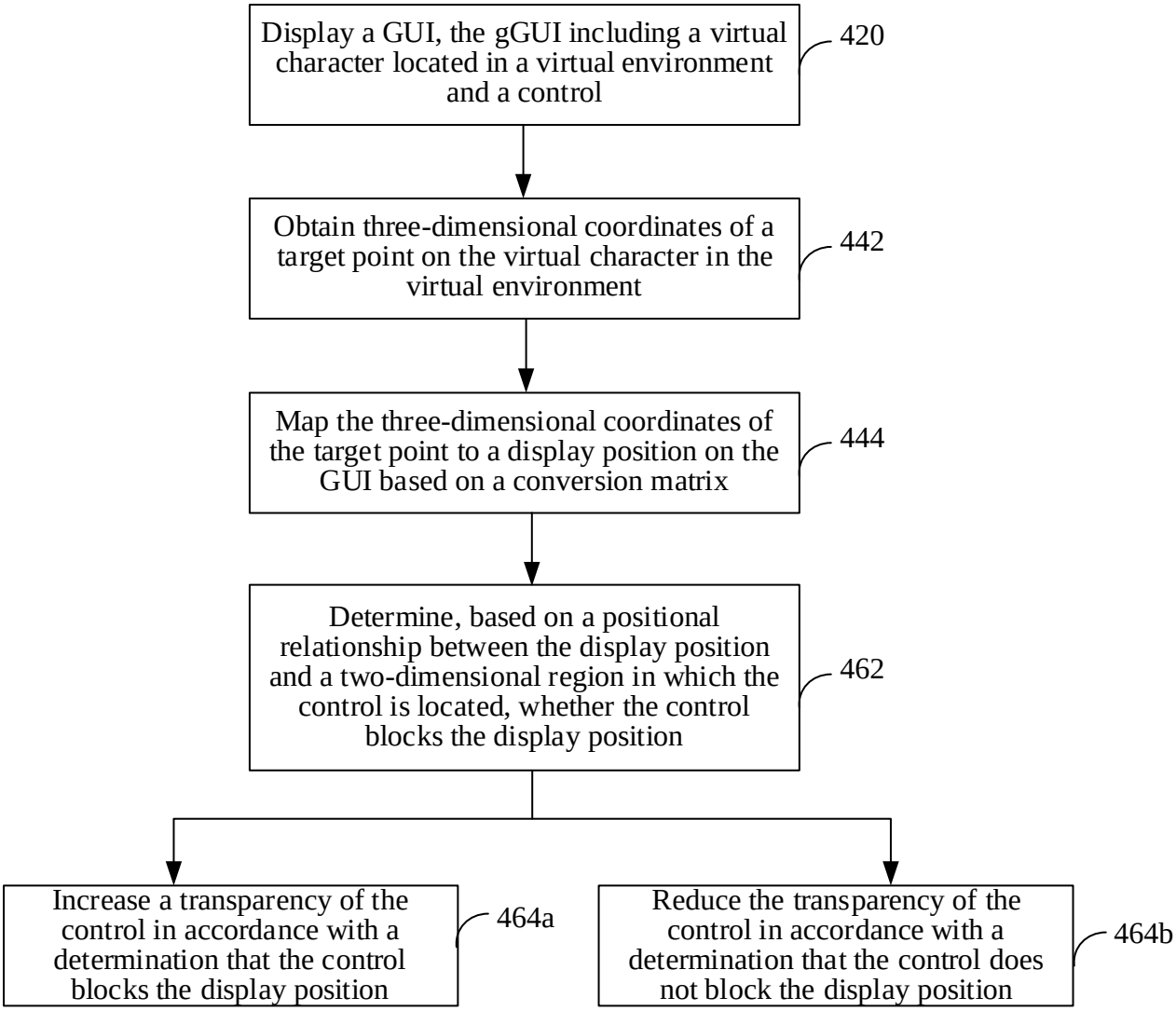

Display a GUI, the gGUI including a virtual character located in a virtual environment and a control
420
Obtain three-dimensional coordinates of a target point on the virtual character in the virtual environment
442
Map the three-dimensional coordinates of the target point to a display position on the GUI based on a conversion matrix
444
Determine, based on a positional relationship between the display position and a two-dimensional region in which the control is located, whether the control blocks the display position
462
Increase a transparency of the control in accordance with a determination that the control blocks the display position
464a
Reduce the transparency of the control in accordance with a determination that the control does not block the display position
464b

FIG. 4

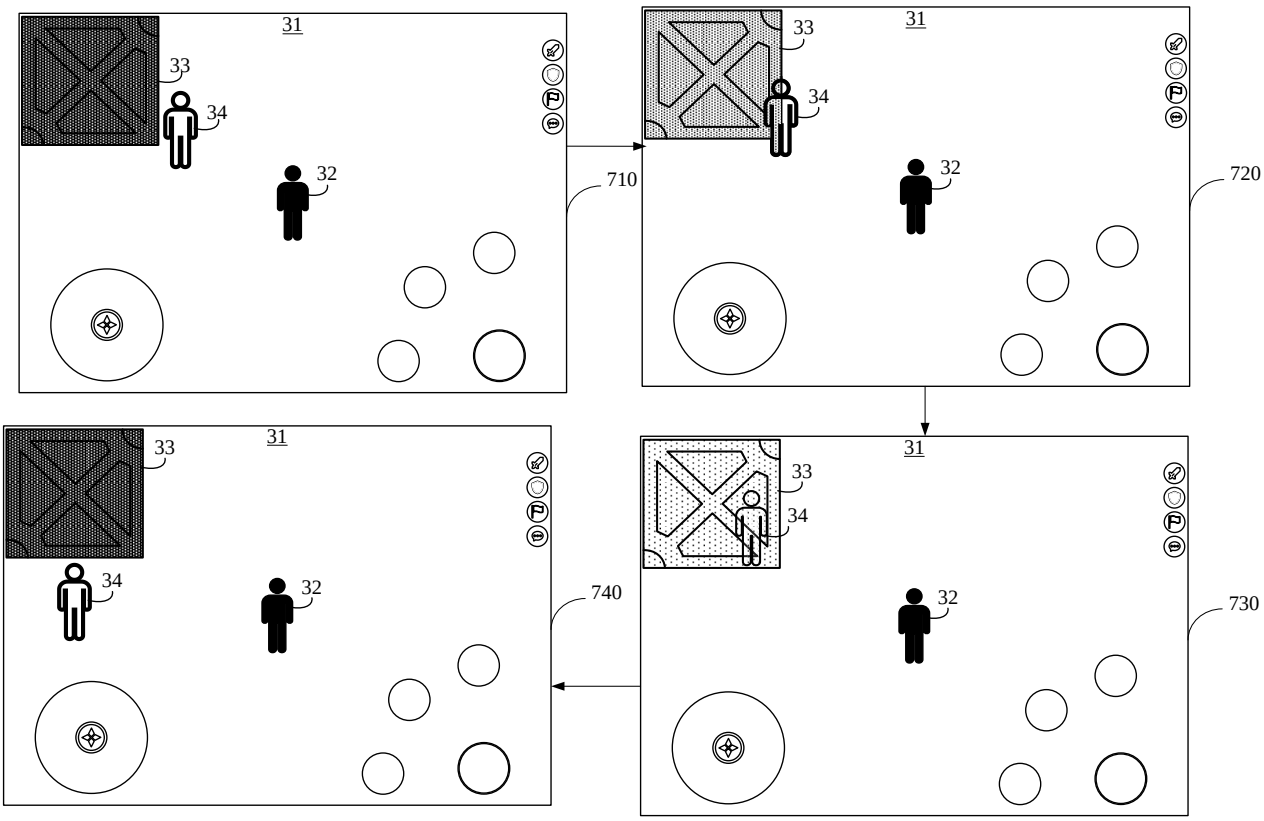


FIG. 5

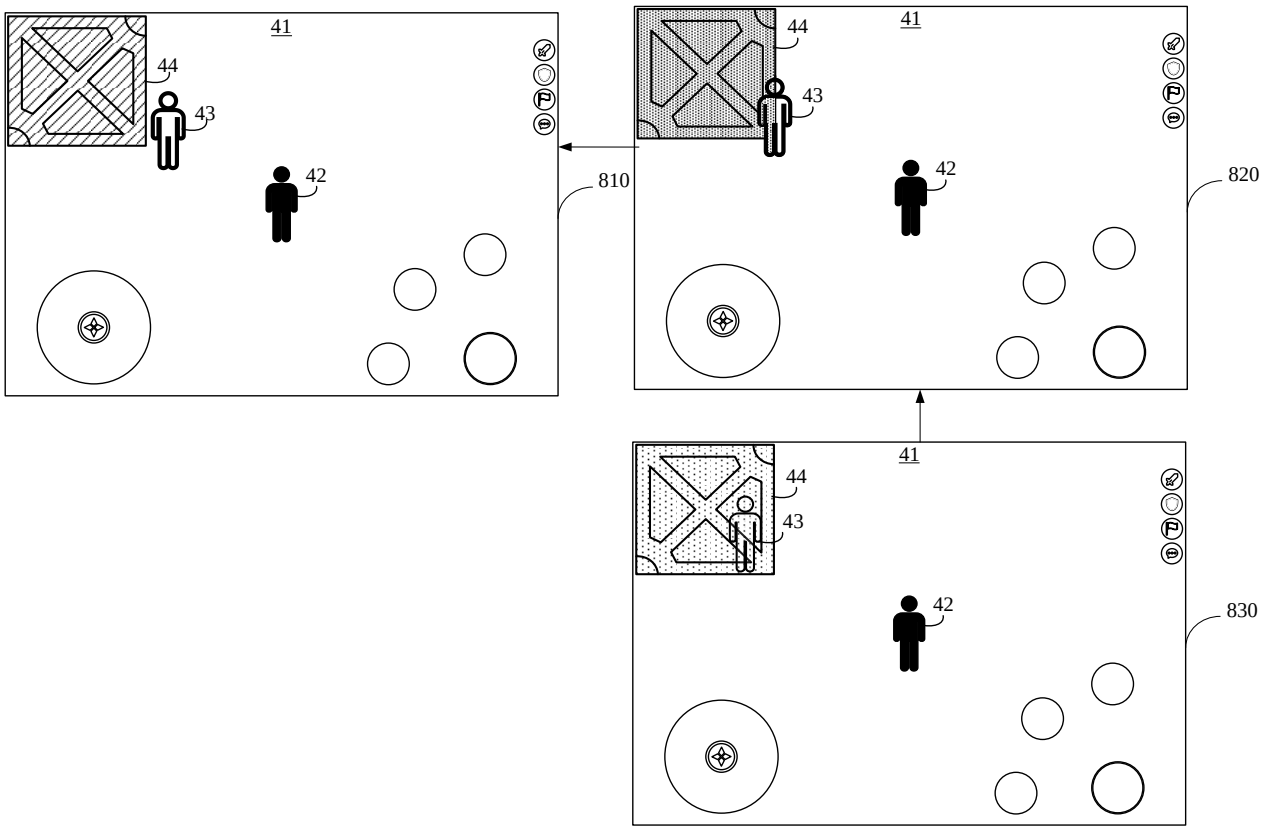


FIG. 6

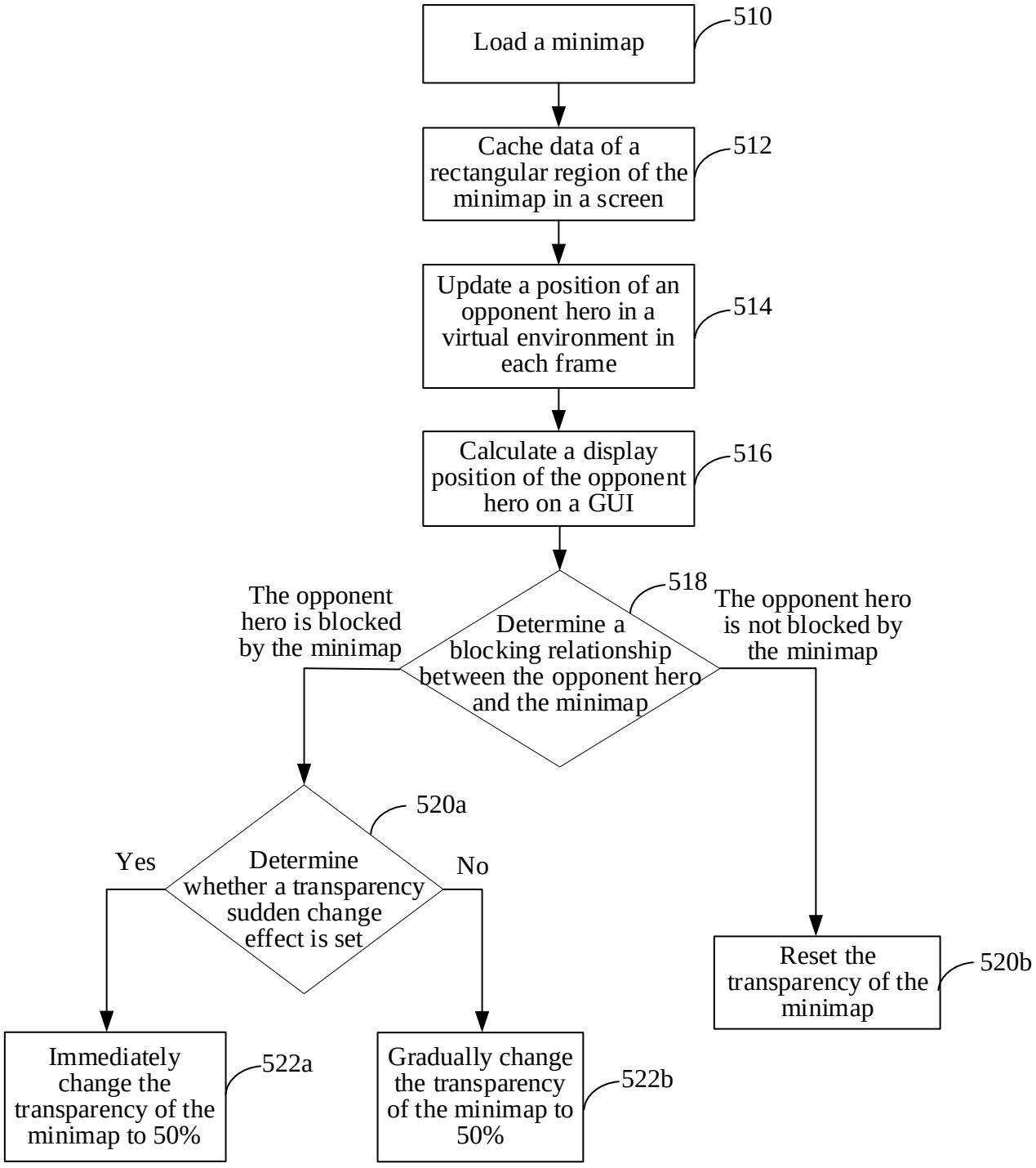

Load a minimap
510
Cache data of a rectangular region of the minimap in a screen
512
Update a position of an opponent hero in a virtual environment in each frame
514
Calculate a display position of the opponent hero on a GUI
516
Determine a blocking relationship between the opponent hero and the minimap
518
The opponent hero is blocked by the minimap
The opponent hero is not blocked by the minimap
Determine whether a transparency sudden change effect is set
520a
Yes
No
Reset the transparency of the minimap
520b
Immediately change the transparency of the minimap to 50%
522a
Gradually change the transparency of the minimap to 50%
522b

FIG. 7

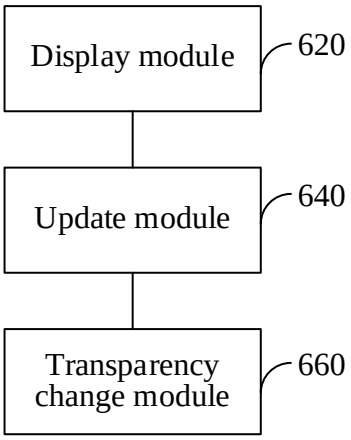

Display module
620
Update module
640
Transparency change module
660

FIG. 8

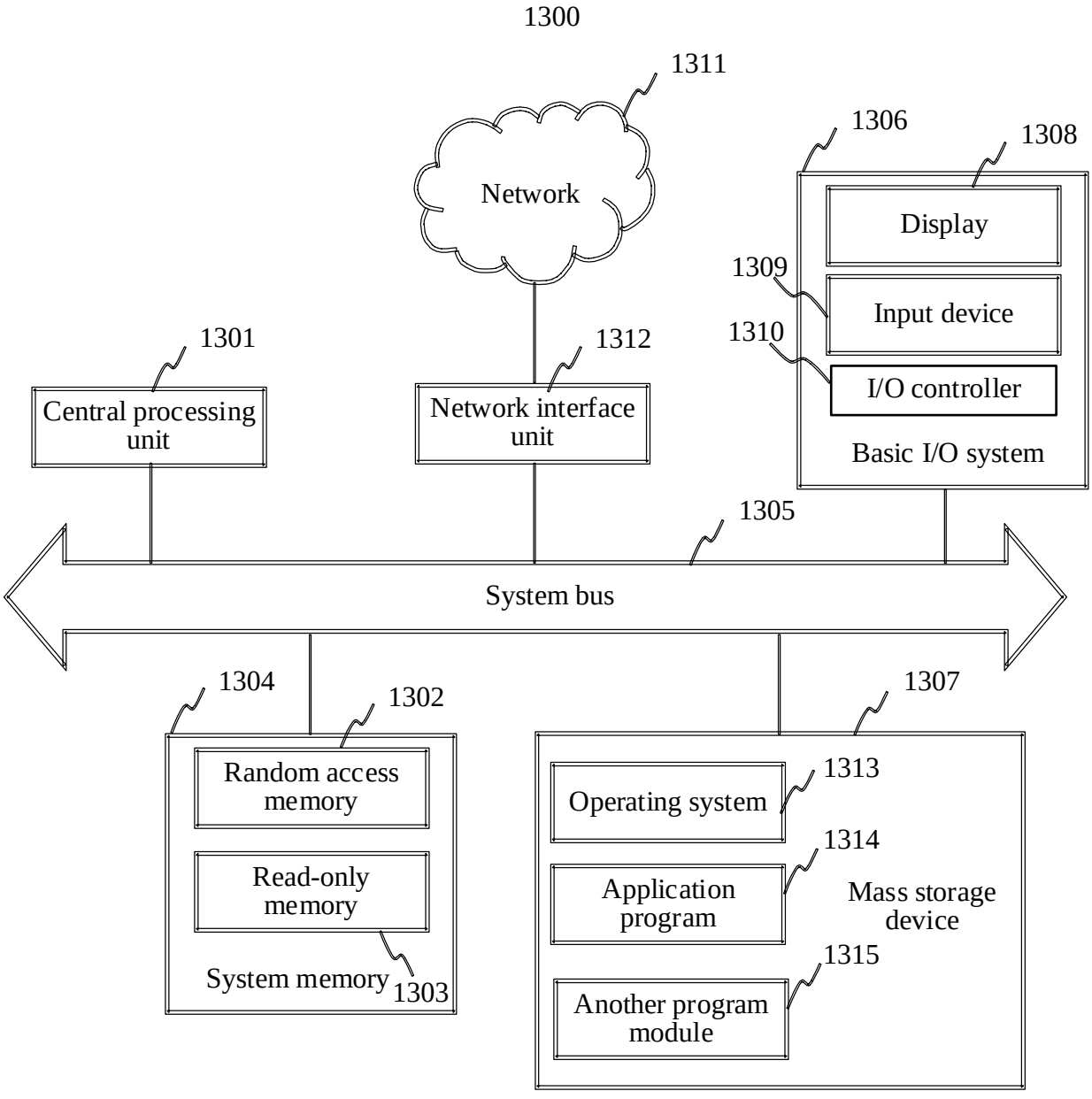

1300
1311
Network
1306
1308
Display
1309
Input device
1310
I/O controller
Basic I/O system
1301
Central processing unit
1312
Network interface unit
1305
System bus
1304
1302
Random access memory
Read-only memory
System memory
1303
1307
Operating system
1313
1314
Application program
Mass storage device
1315
Another program module

FIG. 9