CLAIMS

1. A radio frequency identification (RFID) terminal, comprising:

a directional antenna module, configured to directionally receive a signal transmitted by an electronic tag on an item in a region to be read;

a camera, configured to capture an image of the region to be read;

a control unit, configured to screen information of a target item according to the image of the region to be read captured by the camera, and

a display screen, configured to display the image of the region to be read and for a user's operation to select the item in the image;

wherein the display screen is configured for the user's operation to select a first region and a second region in the image, respectively; and the RFID terminal further reads information of the item in an intersection set region, an union set region, or a complementary set region between the first region and the second region according to a preset manner.

2. The RFID terminal according to claim 1, wherein the screening, by the control unit, the information of the target item comprises:

the control unit compares the image captured by the camera with an image in an image library in a storage unit via a deep learning neural network to identify the target item, and screens the information of the target item in the signal received by the directional antenna module.

3. The RFID terminal according to claim 2, wherein the control unit is further configured to adjust a reception range of the directional antenna module according to a display range of the item selected by the user, to read information of the item selected by the user or to read information of other items from which the item selected by user is excluded.

4. The RFID terminal according to claim 1, wherein the directional antenna module is provided with a reception range; the display screen is provided with a display region; and a display range of the display region substantially coincides with the reception range.

5. The RFID terminal according to claim 1, wherein the control unit is further configured to display the item in the region to be read on the display screen in categories, for the user to select the target item.

6. The RFID terminal according to claim 5, wherein the display screen is further configured to display information of the item selected by the user or to display information of other items from which the item selected by user is excluded.

7. The RFID terminal according to claim 1, wherein the display screen is configured for the user’s operation to select the target item; and the control unit is configured to screen information of items, which have the same kind as the item selected by the user, according to the user’s operation.

8. The RFID terminal according to claim 1, wherein a reception range of the directional antenna module is located within a field of view of the camera.

9. A method of using a RFID terminal, comprising:

receiving, by a directional antenna module, a signal transmitted by an electronic tag on an item in a region to be read;

capturing, by a camera, an image of the region to be read,

screening, by a control unit, information of a target item according to the image of

the region to be read captured by the camber;

displaying, by a display screen, the image of the region to be read; and

manually selecting the item in the image on the display screen;

wherein the manually selecting the item in the image on the display screen comprises: selecting a first region and a second region in the image, respectively; and reading information of the item in an intersection set region, an union set region, or a complementary set region between the first region and the second region according to a preset manner.

10. The method according to claim 9, wherein the directional antenna module is provided with a reception range; the display screen is provided with a display region; and a display range of the display region substantially coincides with the reception range.

11. The method according to claim 9, wherein the screening information of the selected item comprises: comparing, by a control unit, the image selected by a user with an image in an image library stored in a storage unit via a deep learning neural network to identify the item selected by the user.

12. The method according to claim 9, the screening information of the selected item further comprising: adjusting a reception range of the directional antenna module to a range at which the selected item is located, and receiving the signal transmitted by the electronic tag on the selected item.