CLAIMS

What is claimed is:

1. A product information query system, wherein the system comprises a photographing module, a distance detection module, an information query module, and a presentation module, and at least an overlapping area exists between a detection area of the distance detection module and a photographing area of the photographing module;

wherein the distance detection module sends a notification message to the information query module for enabling a query when detecting that a distance between the distance detection module and a moving object falls within a predetermined distance range, ~~the distance detection module sends a notification message used to instruct for enabling a query to the information query module~~ and wherein the distance is determined based on a time difference between when a ultrasonic distance sensor comprised in the distance detection module transmits an ultrasonic wave and when the ultrasonic distance sensor receives an echo of the ultrasonic wave reflected by the moving object;

after receiving the notification message, the information query module obtains an image photographed by the photographing module, and performs, by using a product image feature extracted from the image, ~~a~~ the query to obtain product details information corresponding to the product image feature; and

the presentation module presents the product details information.

2. The system according to claim 1, wherein the moving object comprises a human being; and/or

~~the distance detection module comprises an ultrasonic distance measurement module; and/or~~

the product details information comprises comment information of a to-be-queried product; and/or

the photographing area comprises the detection area; and/or

the predetermined distance range is a distance range corresponding to the overlapping area; and/or

the presentation module is a display device, a distance between the display device and a product shelf falls within a specified range, the photographing module is

disposed on the top of the display device, and the distance detection module is disposed at the bottom of the display device.

3. The system according to claim 1, wherein when detecting that the distance between the distance detection module and the moving object falls within the predetermined distance range, the distance detection module sends a message used to instruct for enabling photographing to the photographing module; or when detecting that the distance between the distance detection module and the moving object falls outside the predetermined distance range, the distance detection module sends a message used to instruct for disabling photographing to the photographing module.

4. The system according to any one of claims 1 to 3, wherein that the information query module performs, by using a product image feature extracted from the image, ~~a~~ the query to obtain product details information corresponding to the product image feature comprises:

predicting a product location area of the to-be-queried product in the image based on a pre-trained product positioning model;

extracting, from the product location area in the image, the product image feature used to represent basic product information, and performing similarity comparison between the extracted product image feature and a sample product image feature to obtain basic product information of the to-be-queried product; and

performing ~~a~~ the query to obtain the product details information of the to-be-queried product by using the basic product information.

5. The system according to claim 3, wherein the image comprises at least image data corresponding to two products, image data of ~~the~~ a same product in different images is determined based on a product location area predicted in each frame of the image, and basic product information of the same product is determined based on a quantity of repetitions of basic product information corresponding to the image data of the product in different images.

6. The system according to claim 3, wherein the information query module comprises a processing module and a query module;

after receiving the notification message, the processing module obtains the image photographed by the photographing module, predicts the product location area of the to-be-queried product in the image based on the pre-trained product positioning model, and sends image data of the product location area in the image to the query module; and

the query module extracts, from the received image data, the product image feature used to represent basic product information, and performs similarity comparison between the extracted product image feature and the sample product image feature to obtain the basic product information of the to-be-queried product; and performs ~~a~~ the query to obtain the product details information of the to-be-queried product by using the basic product information, and sends the product details information to the presentation module for presentation.

7. A product information query method implemented based on the system according to any one of claims 1 to 6, comprising:

when a distance between a distance detection module and a moving object falls within a predetermined distance range, obtaining an image photographed by a photographing module;

performing, by using a product image feature extracted from the image, ~~a~~ the query to obtain product details information corresponding to the product image feature; and

presenting the product details information.

8. The method according to claim 7, wherein the performing, by using a product image feature extracted from the image, ~~a~~ the query to obtain product details information corresponding to the product image feature comprises:

predicting a product location area of a to-be-queried product in the image based on a pre-trained product positioning model;

extracting, from the product location area in the image, the product image feature used to represent basic product information, and performing similarity comparison between the extracted product image feature and a sample product image feature to obtain basic product information of the to-be-queried product; and

performing ~~a~~ the query to obtain the product details information of the to-be-queried product by using the basic product information.

9. The method according to claim 8, wherein the image comprises at least image data corresponding to two products, image data of ~~the~~ a same product in different images is determined based on a product location area predicted in each frame of the image, and basic product information of the same product is determined based on a quantity of repetitions of basic product information corresponding to the image data of the product in different images.

10. The method according to claim 8, wherein the basic product information

comprises at least a product category of the to-be-queried product and a brand of the product; and/or the product details information comprises comment information of the to-be-queried product.