

Method and ~~Apparatus Device of~~ for Recognizing Target Object Recognition on at Machine Side in Human-Machine Interaction

This application is a continuation of International Application No. PCT/CN2012/076596, filed on June, 7, 2012, which claims priority to Chinese Patent Application No. 201110204966.3, entitled “method and apparatus for recognizing target object at machine side in human-machine interaction” and filed on July, 21, 2011, the entire contents of all of which are incorporated herein by reference in their entirety for all purposes.

Technical Field

The present disclosure relates to human-machine interaction technologies, and more particularly, to a method and apparatus for recognizing a target object at a machine side in human-machine interaction.

Background

Currently, in various Internet services providing human-machine interaction services, e.g. virtual community services, a target object is always identified by using pure characters at a machine side. The target object may be a certain person or a certain thing, and the certain person is taken as an example in the following descriptions. For example, a certain person may be identified by combining a specific symbol with a name or designation, so as to quickly locate an information page of the person or provide other human-machine interaction operations. However, the Internet provided by the machine side includes texts and a lot of picture data. The certain person or certain thing is increasingly represented by using a picture. The following problems are caused when the target object is still identified by using pure characters.

The characters for recognizing the target object cannot be associated with a picture including the target object. For example, when the user wants to recognize a person from a picture of the machine side, the user needs to search text introduction page related to the picture and then determine or presume who is the person in the picture. On the one hand, the information provided by the machine side is monotonous and it is not convenient for the user to recognize a certain target object from vast amounts of text data and picture

data at the machine side. In most cases, the user cannot recognize the target object from the pictures successfully, hence human-machine interaction experiences of the user is bad. On the other hand, the user has to perform more human-machine interaction operations to obtain more text information to recognize the target object from the pictures. Each human-machine interaction operation includes sending request information, triggering a compute procedure and generating response information, and thus a great deal of resources at the machine side, e.g. client resources, server resources and network bandwidth resources are occupied. Especially, when one picture includes multiple target objects, e.g. the picture includes multiple persons, the procedure of recognizing the person by using the pure characters is more complicated, and more human-machine interaction operations are needed and more resources at the machine side are occupied.

Summary

Examples of the present disclosure provide a method and apparatus for recognizing a target object at a machine side in human-machine interaction, so that it is convenient for a user to recognize a target object from a picture and reduce occupancy of resources at the machine side.

The technical solutions of the present disclosure are implemented as follows.

A method for recognizing a target object at a machine side in human-machine interaction, applied to recognize a target object in a target picture at a machine side includes: recognizing processing and displaying processing;

the recognizing processing comprises:

superimposing a graphic tag on a target object in a target picture displayed according to an instruction sent by a user, determining a display parameter of the graphic tag;

adding identifier information for the graphic tag; and

storing the display parameter of the graphic tag and the identifier information of the graphic tag in a storage medium related to the target picture;

the displaying processing comprises:

~~displaying the target picture;~~

obtaining the display parameter of the graphic tag and the identifier information of the graphic tag from the storage medium related to the target picture;

displaying the graphic tag on the target object in the target picture according to the

display parameter of the graphic tag; and

displaying the identifier information of the graphic tag.

An apparatus for recognizing a target object at a machine side in human-machine interaction includes:

a first displaying module, configured to display a target picture;

a graphic tag superimposing module, configured to superimpose a graphic tag on a target object in ~~a~~the target picture according to an instruction sent by a user; and determine a display parameter of the graphic tag;

an identifier information adding module, configured to add identifier information for the graphic tag;

a storage controlling module, configured to store the display parameter of the graphic tag and the identifier information of the graphic tag in a storage medium related to the target picture; and

~~a first displaying module, to display the target picture; and~~

a second displaying module, to configured obtain the display parameter of the graphic tag and the identifier information of the graphic tag from the storage medium related to the target picture; display the graphic tag on the target object in the target picture according to the display parameter of the graphic tag; and display the identifier information of the graphic tag.

A non-transitory computer readable storage medium stores computer program for executing the above method.

According to the solutions of the present disclosure, the target object is recognized by using the graphic tag on the target picture displayed at the machine side, and the identifier information is added, so that the identifier information of the target object is associated with the picture including the target object, so as to make it convenient for the user to recognize the target object from the picture, reduce the number of human-machine interaction operations, thereby reducing occupancy of resources at the machine side and facilitating the operation of the user.

Brief Description of the Drawings

Figure 1 is a schematic flowchart illustrating a method according to various

examples of the present invention.

Figures 2a to 2k are schematic diagrams illustrating interfaces of “circling a person” according to various examples of the present invention.

Figure 3 is a schematic diagram illustrating an apparatus according to various examples of the present invention.

Figure 4 is a schematic diagram illustrating an apparatus according to various examples of the present invention.

Figure 5 is a schematic flowchart illustrating a method according to various examples of the present invention.

Detailed Description

The following description is merely illustrative in nature and is in no way intended to limit the disclosure, its application, or uses. The broad teachings of the disclosure can be implemented in a variety of forms. Therefore, while this disclosure includes particular examples, the true scope of the disclosure should not be so limited since other modifications will become apparent upon a study of the drawings, the specification, and the following claims.

Figure 1 is a schematic flowchart illustrating a method according to various examples of the present invention. As shown in Figure 1, in the method, a target object is recognized in a target picture at a machine side, and recognizing processing and displaying processing are included.

The recognizing processing is as follows.

At 101, a graphic tag is superimposed on a target object in a target picture according to an instruction sent by a user. In the example, the graphic tag may be any graphic, e.g. a rectangle or a circle. A display parameter of the graphic tag is determined. In the example, the display parameter may include a size of the graphic tag and location coordinates of the graphic tag on the target picture.

At 102, identifier information is added for the graphic tag. The identifier information

may be generated according to an instruction sent by the user. The identifier information may be an identifier of the target object, e.g. a name or a code name, or comment information corresponding to the target object, so as to implement a local comment function.

At 103, the display parameter of the graphic tag and the identifier information of the

tag and the identifier information of the graphic tag from the storage medium related to the target picture, display the graphic tag on the target object in the target picture according to the display parameter of the graphic tag, and display the identifier information of the graphic tag.

Figure 4 is a schematic diagram illustrating an apparatus according to various examples of the present invention.

Besides the components in the example shown in Figure 3, the apparatus further includes a comment module 306. The comment module 306 is to display a comment prompt box, receive comment information submitted by a user having comment permission; store the comment information in the storage medium related to the target picture; and display the comment information in a web page related to the target picture.

The apparatus may further include a picture aggregating module 307. The picture aggregating module 307 is to determine whether at least two target pictures are superimposed with graphic tags and identifier information of the graphic tags are identical. If at least two target pictures are superimposed with graphic tags and identifier information of the graphic tags are identical, the picture aggregating module 307 is to store or display the at least two target pictures as a category of target pictures, and take the identifier information as identifier information of the category of the target pictures.

The graphic tag superimposition module 301 further includes a face recognizing module 308. The face recognizing module 308 is to recognize whether there is a face target object before the instruction sent by the user is received, superimposing a graphic tag on the face target object if there is the face target object.

Figure 5 is a schematic flowchart illustrating a method according to various examples of the present invention. As shown in Figure 5, the method includes the following processing and a target object is recognized in a target picture at a machine side.

At 501, the target picture is displayed.

At 502, a graphic tag is superimposed on a target object in a target picture according

to an instruction sent by a user. In the example, the graphic tag may be any graphic, e.g. a rectangle or a circle. A display parameter of the graphic tag is determined. In the example, the display parameter may include a size of the graphic tag and location coordinates of the graphic tag on the target picture.

At 503, identifier information is added for the graphic tag. The identifier information may be generated according to an instruction sent by the user. The identifier information may be an identifier of the target object, e.g. a name or a code name, or comment information corresponding to the target object, so as to implement a local comment function.

At 504, the display parameter of the graphic tag and the identifier information of the graphic tag are stored in a storage medium related to the target picture.

At 505, the display parameter of the graphic tag and the identifier information of the graphic tag are obtained from the storage medium related to the target picture. The graphic tag is displayed on the target object in the target picture according to the display parameter of the graphic tag, and the identifier information of the graphic tag is also displayed.

Each example of the present disclosure may be implemented by data processing program executed by a data processing device, e.g. a computer. The data processing program is included in the examples of the present disclosure. Generally the data processing program stored in storage medium may directly read a program from the storage medium, or may install or copy the program to a storage device of the data processing device (e.g. a hard disk or memory). Thus, the storage medium is included in the examples of the present disclosure. The storage medium may use any recording mode, e.g. page storage medium (e.g. tape), magnetic storage media (e.g. floppy disks, hard disks, flash), optical storage medium (e.g. CD-ROM), or magnetic-optical storage medium (e.g. MO).

According to an example, a storage medium is also provided, which is to store data processing program to cause a machine to execute a method as described herein.

According to the solutions of the present disclosure, the target object is recognized

by using the graphic tag on the target picture displayed at the machine side, and the identifier information is added, so that the identifier information of the target object is associated with the picture including the target object, so as to make it convenient for the user to recognize the target object from the picture, reduce the number of human-machine interaction operations, thereby reducing occupancy of resources at the machine side and facilitating the operation of the user.

Further, comments may be provided after the target object of the target picture is recognized by using the graphic tag. The comment information input by the related user may be stored and displayed. In addition, the identifier information added for the graphic tag may be comment information, so that multiple comments from multiple users for the target object are gathered. Therefore, the user may provide comment information for part of the picture and interactivity is improved, related information of the target object is enriched, and the user may obtain more information of the target object from the same web page. In addition, all of the target pictures corresponding to the same identifier information are stored and display together, it is convenient for the user to view the target pictures corresponding to the same target object. According to the above solutions, the number of human-machine interaction operations for searching for related information of the target object is reduced, and occupancy of resources at the machine side is reduced.

Moreover, since the graphic tag may be overlap with other graphic tags, when the picture includes more than one target object, each target object may be recognized and descriptions are added respectively, so that it is easy for the user to recognize a certain target object from the picture including more than one target object, thereby further facilitating the operation of the user.

When the solutions of the present disclosure are applied for Internet services providing multiple human-machine services, e.g. the virtual community service,

Claims

1. A method for recognizing a target object at a machine side in human-machine interaction, applied to recognize a target object in a target picture at a machine side, comprising: recognizing processing and displaying processing; wherein

the recognizing processing comprises:

superimposing a graphic tag on a target object in a target picture displayed according to an instruction sent by a user, determining a display parameter of the graphic tag;

adding identifier information for the graphic tag; and

storing the display parameter of the graphic tag and the identifier information of the graphic tag in a storage medium related to the target picture;

the displaying processing comprises:

~~displaying the target picture;~~

obtaining the display parameter of the graphic tag and the identifier information of the graphic tag from the storage medium related to the target picture;

displaying the graphic tag on the target object in the target picture according to the display parameter of the graphic tag; and

displaying the identifier information of the graphic tag.

2. The method of claim 1, wherein the displaying processing further comprises:

displaying a comment prompt box;

receiving comment information submitted by a user having comment permission;

storing the comment information in the storage medium related to the target picture;

and

displaying the comment information in a web page related to the target picture.

3. The method of claim 2, wherein the user having comment permission comprises: the user sending the instruction in the recognizing processing, an owner of the target picture, the target object in the target picture, and a friend of the target object.

4. The method of claim 1, further comprising:

determining whether at least two target pictures are superimposed with graphic tags

information; and

the method further comprises:

after the recognizing processing and before the displaying processing,

sending a dynamic notification to the target object and an owner of the target picture to indicate the recognizing processing;

wherein the displaying processing is performed after the dynamic notification is viewed.

10. The method of claim 1, wherein the identifier information is the comment information; and

the method further comprises:

after the recognizing processing and before the displaying processing, sending a dynamic notification in the name of an trigger of the recognizing processing to an owner of the target picture to indicate the recognizing processing; the dynamic notification comprising a thumbnail of the target picture and the comment information;

wherein the displaying processing is performed after the thumbnail is clicked.

11. An apparatus for recognizing a target object at a machine side in human-machine interaction, comprising:

a first displaying module, configured to display a target picture;

a graphic tag superimposing module, configured to superimpose a graphic tag on a target object in ~~a~~the target picture according to an instruction sent by a user; and determine a display parameter of the graphic tag;

an identifier information adding module, configured to add identifier information for the graphic tag;

a storage controlling module, configured to store the display parameter of the graphic tag and the identifier information of the graphic tag in a storage medium related to the target picture; and

~~a first displaying module, to display the target picture; and~~

a second displaying module, to configured obtain the display parameter of the graphic tag and the identifier information of the graphic tag from the storage medium related to the target picture; display the graphic tag on the target object in the target picture according to the display parameter of the graphic tag; and display the identifier

information of the graphic tag.

12. The apparatus of claim 11, further comprising:

a comment module, configured to display a comment prompt box; receive comment information submitted by a user having comment permission; store the comment information in the storage medium related to the target picture; and display the comment information in a web page related to the target picture.

13. The apparatus of claim 11, further comprising:

a picture aggregating module, configured to determine whether at least two target pictures are superimposed with graphic tags and identifier information of the graphic tags are identical; if at least two target pictures are superimposed with graphic tags and identifier information of the graphic tags are identical, store or display the at least two target pictures as a category of target pictures, and take the identifier information as identifier information of the category of the target pictures.

14. The apparatus of claim 11, wherein the graphic tag superimposing module further comprises:

a face recognizing module, configured to recognize whether there is a face target object before the instruction sent by the user is received, superimposing a graphic tag on the face target object, if there is the face target object.

15. A non-transitory computer storage medium, storing computer program for executing the method as claimed in any of claims 1 to 10.