Method and Device for Browsing Pictures

This application claims the benefit of priority from Chinese Patent Application, No. 200910090444.8, entitled "method and device for browsing pictures" and filed on August 11, 2009, the entire content of which is hereby incorporated by reference.

Field of the Invention

The present invention relates to network communication technologies, and more particularly to a method and device for browsing pictures.

Background of the Invention

With the development of Internet technologies, more and more users use picture libraries on Internet. When browsing a big picture in a picture library, a user usually browses the big picture by paging down. If a picture to be browsed by the user is loaded after the user clicks the picture, the speed of browsing the picture by the user will be influenced by the limitation of Internet bandwidth. In order to improve the speed of browsing the picture by the user, a method for browsing pictures is provided in the prior art. In the method, when browsing a current picture, the user preloads a next picture after the current picture; when the user clicks the next picture, the next picture for which the preloading processing has been completed is displayed to the user instantly. By the method, the speed of browsing the picture by the user is improved.

There are following disadvantages in the conventional technical solution.

In the conventional technical solution, if the preloading processing of the next picture has not been completed when the user clicks the next picture, the system will resend a loading command, which results in repeated loading processing of the next picture, and further results in the waste of bandwidth resources.

Summary of the Invention

Examples of the present invention provide a method and device for browsing pictures, by which repeated loading processing of a picture can be avoided, and further bandwidth resources can be saved.

An example of the present invention provides a method for browsing pictures includes:

after a user clicks a picture, checking whether a system has sent a loading request to a uniform resource locator (url) corresponding to the picture;

displaying the picture to the user if the system has sent the loading request to the url corresponding to the picture; otherwise, sending the loading request to the url corresponding to the picture and displaying the picture to the user.

An example of the present invention provides a device for browsing pictures includes:

a checking unit, adapted to, after a user clicks a picture, check whether a system has sent a loading request to a uniform resource locator (url) corresponding to the picture;

a displaying unit, adapted to display the picture to the user if the system has sent the loading request to the url corresponding to the picture;

a sending and displaying unit, adapted to send the loading request to the url corresponding to the picture if the system has not sent the loading request to the url corresponding to the picture, and display the picture to the user.

As can be seen from the above technical solution, after the user clicks the picture, if it is detected that the system has sent a loading request to the url corresponding to the picture, the system does not send the loading request to the url, and displays the picture to the user. In this way, it can be avoided that the system resend a loading command when the preloading processing of the clicked picture has not been completed, so as to avoid repeated loading processing and further save bandwidth resources.

Brief Description of the Drawings

Figure 1 is a schematic flowchart of illustrating a method for browsing pictures according to an example of the present invention.

Figure 2 is a schematic flowchart of illustrating a method for browsing pictures according to another example of the present invention.

Figure 3 is a schematic diagram of illustrating the structure of a device for browsing pictures according to an example of the present invention.

Detailed Description of the Invention

An example of the present invention provides a method for browsing pictures. As shown in Figure 1, the method includes:

step S11, after a user clicks a picture, it is checked whether a system has sent a loading request to a url corresponding to the picture; if the system has sent the loading request to the url corresponding to the picture, Step S13 is performed; otherwise, steps S12 and S13 are performed orderly;

step S12, the loading request is sent to the url corresponding to the picture again; and

step S13, the picture is displayed to the user.

The loading request may be a request sent to the url corresponding to the picture by an image (IMG) tag on a page, that is to say, the picture is loaded through the IMG tag.

In the method provided by the example of the present invention, after the user clicks the picture, if it is detected that the system has sent the loading request to the url corresponding to the picture, the system does not send the loading request again, and display the picture to the user. In this way, it can be avoided that the system sends a loading command again when the preloading processing of the clicked picture has not been completed, so as to avoid repeated loading processing of the clicked picture and further save bandwidth resources.

Before it is checked whether the system has sent the loading request to the url corresponding to the picture, the method further includes modifying an Image object in a global queue into the IMG tag on the page. After the Image object is modified into the IMG tag on the page, the user can see the procedure of loading the picture, so as to decrease times of searching a cache to some extend; and loaded picture part may be displayed when the picture has not been loaded completely. For example, when a half of the picture is loaded, the half of the picture may be displayed.

The above method further includes preloading subsequent pictures of the picture through an IMG tag queue hidden in the page, and caching those pictures for which the preloading processing has been completed. The condition of completing the preloading

processing may be that the subsequent pictures all have been loaded.

The subsequent pictures may be one picture or multiple pictures. When there are multiple pictures, the cached pictures may be displayed to the user directly, so as to improve the speed of browsing the pictures by the user and further improve the experiences of the user.

An example of the present invention also provides a method for browsing pictures, which includes:

after a user clicks a picture, it is checked whether a system has sent a loading request to a url corresponding to the picture; if the system has sent the loading request to the url corresponding to the picture, the picture is displayed to the user; otherwise, the loading request is sent to the url corresponding to the picture again.

The loading request may be a request sent to the url corresponding to the picture by an IMG tag on a page.

Specifically, the step of checking whether the system has sent the loading request to the url corresponding to the picture may includes: determining whether the picture is in an IMG tag queue.

Further, if the picture is in the IMG tag queue, the picture is displayed directly.

If the picture is not in the IMG tag queue, an idle IMG tag in the IMG tag queue is obtained to load the picture, and the picture is displayed.

Before it is checked whether the system has sent the loading request to the url corresponding to the picture, the method further includes creating the IMG tag queue, and preloading the picture and the subsequent pictures through the IMG tag queue. By using the IMG tag to load the picture, the user may see the procedure of loading the picture, and the loaded picture part may be displayed when the picture has not been loaded completely. For example, when a half of the picture is loaded, the half of the picture may be displayed.

Since the picture and the subsequent pictures are preloaded through the IMG tag

queue so that the IMG tag queue caches those pictures for which the preloading processing has been completed, the user can see the procedure of loading the picture, so as to decrease times of searching a cache for a picture to some extend. For example, the user browses the picture and the subsequent pictures, and the IMG tag queue caches the pictures browsed by the user recently; when the user browses the pictures browsed just now through paging up, the user may search for the pictures cached by the IMG tag queue, so as to convenient for the user to browse the pictures up and down.

The state of preloading pictures through the IMG tag queue may be that the subsequent pictures all have been loaded, or part of the subsequent pictures has been loaded, or part of a certain picture in the subsequent pictures has been loaded.

The subsequent pictures may one picture or multiple pictures. When there are multiple pictures, the pictures cached by the IMG tag queue may be displayed to the user directly, so as to improve the speed of browsing the pictures by the user and further improve the experiences of the user.

Another example of the present invention provides a method for browsing pictures. The method is shown in Figure 2 and includes the following steps.

Step S21, receive a paging command sent by a user.

Step S22, hide the currently displayed picture.

Step S23, determine whether a picture to be displayed is in the IMG tag queue; if the picture to be displayed is not in the IMG tag queue, obtain an idle IMG tag in the IMG tag queue, and load the picture to be displayed; if the picture to be displayed is in the IMG tag queue, directly display the picture.

The above step S23 may be replaced with step S24 (not shown in Figure 2). Step S24, determine whether a picture to be preloaded is in the IMG tag queue; if the picture to be preloaded is not in the IMG tag queue, obtain an idle IMG tag in the IMG tag queue, and load the picture to be preloaded; if the picture to be preloaded is in the IMG tag queue, terminate the procedure.

The picture to be preloaded in step S24 may be one or more pictures after the

currently displayed picture, and the user may self-define the number of pictures to be preloaded.

It should be noted that, for those pictures in the IMG tag queue, when a picture is displayed, other pictures may be hidden.

As can be seen, in the method provided by the example of the present invention, after the paging command is received, if the picture to be displayed is in the IMG tag queue, the picture is directly displayed, so as to improve the speed of browsing the picture by the user and further improve the experiences of the user.

The example of the present invention may be implemented as follows.

```
<div>
    <img id="img_obj1" src="about:blank" style="display:none" />
    <img id="img_obj2" src="about:blank" style="display:none" />
    <img id="img_obj3" src="about:blank" style="display:none" />
    <img id="img_obj4" src="about:blank" style="display:none" />
    <img id="img_obj5" src="about:blank" style="display:none" />
</div>
<script>
/**
 *  load the picture
 * @param {string} url    the url of the picture to be displayed
 * @param {string} pUrl    the url of the picture to be preloaded
 */
function imgLoader(url,pUrl){
    //hide the currently displayed picture
    hide(nowImage)
    //whether the picture is in the loading queue
    if(have(url)){
        //display the picture
        show(url);
    }else{
        //obtain an idle IMG tag
        var img = getFree();
```

```
            img.src = url;
            //display the picture (not always display the picture instantly)
            show(img);
        }
        nowImage = url;

        if(!have(pUrl)){
            //obtain an idle IMG tag, and the IMG tag is not the currently displayed
picture
            var img2 = getFree();
            img2.src = pUrl;
        }
    }
    </script>
```

An example of the present invention also provides a device for browsing pictures. The device is shown in Figure 3 and includes:

a checking unit 31, adapted to, after a user clicks a picture, check whether a system has sent a loading request to a url corresponding to the picture;

a displaying unit 32, adapted to display the picture to the user when the checking result of the checking unit 31 indicates that the system has sent the loading request to the url corresponding to the picture;

a sending and displaying unit 33, adapted to send the loading request to the url corresponding to the picture again when the checking result of the checking unit 31 indicates that the system has not sent the loading request to the url corresponding to the picture, and display the picture to the user.

The above device may further include a creating unit 34, adapted to create an IMG tag queue on the page.

The above device may further include a preloading unit, adapted to preload subsequent pictures of the picture through the IMG tag queue, and cache those pictures

for which the preloading processing has been completed.

The subsequent pictures may one picture or multiple pictures.

When the checking result of the checking unit 31 in the device provided by the example of the present invention indicates that the system has sent the loading request to the url corresponding to the picture, the displaying unit 32 displays the picture to the user; when the checking result of the checking unit 31 indicates that the system has not sent the loading request to the url corresponding to the picture, the sending and displaying unit 33 sends the loading request to the url corresponding to the picture and then displays the picture to the user. In this way, it can be avoided that the system resends a loading command when the preloading processing of the clicked picture has not been completed, so as to avoid repeated loading processing and further save bandwidth resources.

The device for browsing pictures may be understood by referring to the method for browsing pictures provided by the example of the present invention.

Those skilled in the art can understand that, all or part of steps in the above method may be implemented by instructing related hardware by a program. The program may be stored in a readable storage medium of a computer. The program includes above method steps when being operated. The storage medium includes a ROM/RAM, a disk, a CD and so on.

To sum up, the technical solution of the present invention has advantages of avoiding repeated loading processing and saving bandwidth resources.

The foregoing is only preferred examples of the present invention, and is not used in limiting the protection scope of the present invention. The improvement and replacement easily made by those skilled in the art according to the technical solution disclosed by the examples of the present invention should be covered in the protection scope of the invention. Therefore, the protection scope of the present invention is defined by claims.

Claims

What is claimed is:

1. A method for browsing pictures, comprising:

after a user clicks a picture, checking whether a system has sent a loading request to a uniform resource locator (url) corresponding to the picture;

displaying the picture to the user if the system has sent the loading request to the url corresponding to the picture; otherwise, sending the loading request to the url corresponding to the picture and displaying the picture to the user.

2. The method of claim 1, before checking whether the system has sent the loading request to the url corresponding to the picture, further comprising:

creating an image (IMG) tag queue on a page.

3. The method of claim 2, further comprising:

preloading the picture and subsequent pictures through the IMG tag queue, and caching pictures for which preloading processing have been completed.

4. The method of claim 2, wherein checking whether a system has sent a loading request to a url corresponding to the picture comprises: determining whether the picture is in the IMG tag queue;

displaying the picture to the user if the system has sent the loading request to the url corresponding to the picture comprises: displaying the picture to the user if the picture is in the IMG tag queue;

sending the loading request to the url corresponding to the picture and displaying the picture to the user if the system has not sent the loading request to the url corresponding to the picture comprises: if the picture is not in the IMG tag queue, obtaining an idle IMG tag in the IMG tag queue to load the picture, and displaying the picture.

5. The method of claim 3, wherein there is one or multiple subsequent pictures.

6. A device for browsing pictures, comprising:

a checking unit, adapted to, after a user clicks a picture, check whether a system has sent a loading request to a uniform resource locator (url) corresponding to the picture;

a displaying unit, adapted to display the picture to the user if the system has sent the loading request to the url corresponding to the picture;

a sending and displaying unit, adapted to send the loading request to the url corresponding to the picture if the system has not sent the loading request to the url corresponding to the picture, and display the picture to the user.

7. The device of claim 6, further comprising:

a creating unit, adapted to create an IMG tag queue on a page.

8. The device of claim 7, further comprising:

a preloading unit, adapted to preload the picture and subsequent pictures through the IMG tag queue, and cache pictures for which preloading processing have been completed.

9. The device of claim 7, wherein the checking unit is adapted to determine whether the picture is in the IMG tag queue;

the displaying unit is adapted to display the picture to the user if the picture is in the IMG tag queue;

the sending and displaying unit is adapted to, if the picture is not in the IMG tag queue, obtain an idle IMG tag in the IMG tag queue to load the picture, and display the picture.

10. The device of claim 8, wherein there is one or multiple subsequent pictures.