

Paste image from clipboard using javascript in CKEditor

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Abstract –The CKEditor is a good web page editor and be used widely. But it can not paste an image directly from clipboard to the server because of safety issues and serious impact on the effect of the user experience, so need a method to solve this problem. Several methods to paste from clipboard into CKEditor are analyzed in this article, and a solution is presented. In firefox browser, can use javascript and ajax to access and post base64 png image directly to the server, but in IE browser, an ActiveX has to be developed and signed to paste from clipboard. Now this function has realized in our e-commerce experiment system.

Keywords –Paste image; clipboard; ActiveX

1. Background

The CKEditor is an excellent web page text editor, and widely applied to the major sites because of its amazing performance and scalability [1-2]. Using CKEditor can not only convenient to send text, and CKfinder compatible can also transfer files and pictures. Author use this software in the development of e-commerce experiment system, and achieved good results. However, in actual use, there are also some shortcomings. In the process of the experiment, for example, often require the students to copy the entire screen down and send the image to the website as a result of the experiment. But CKEditor can not allow to paste the shear version of the image directly to the server in this circumstances, only allow to save image to a file first on the client side, or copy it to the Word and then paste it manually into CKEditor, so it has a serious impact on the effect of the user experience when upload images. Thus, the solution CKEditor Paste image from clipboard is very necessary.

2. Several methods to paste from clipboard

At present, the methods can be used to paste from clipboard in a web page are summarized up as follows:

(1) Use javascript to access the contents of clipboard directly. JavaScript is that was designed for the web and can be used to manipulate webpages to perform a variety of functions[3],[4],[5]. Can use the following statement to access the contents of the clipboard, but these contents can only be the text nor the image.

```
// javascript codes in a Web page to access contents of  
clipboard  
function getClipboard(fs) {  
    if (window.clipboardData) {  
        //if is IE Browser  
        return (window.clipboardData.getData(fs));  
    } else {  
        if (window.netscape) {  
            //if is netscape Browser
```

```
.....  
    }  
}
```

(2)Flash copy and paste, that is, the so-called "swf bridge knot" [3]. The principle is to generate a swf file in Flash and uses ActionScript script to establish a local clipboard object, shown as follows. When this swf object embedded in a Web Page, the use of javascript can be accessed from the local clipboard to the corresponding content [6]. The advantage of this approach is the ability across different browsers, and can use local clipboard to copy and paste text and images, but can not copy and paste the entire screen.

```
//ActionScript codes in swf file  
var clip = new ZeroClipboard.Client(); // create a  
local clipboard object  
clip.setHandCursor( true ); // set mouse style  
clip.setText("some contents"); //copy some contents  
clip.glue("copy-botton");  
//register a button,when clicks this button from  
webpage, these codes will be executed
```

```
.....  
//Javascript codes in Web Page  
<embed id=" ZeroClipboard " src=" ZeroClipboard.swf" loop="false" menu="false"  
quality="best" bgcolor="#ffffff" width="150"  
height="20" name="Clipboard" align="middle"  
allowScriptAccess="always" allowFullScreen="false"  
type="application/x-shockwave-flash"  
pluginspage="http://www.macromedia.com/go/getflash  
player" flashvars="id=1&width=150&height=20"  
wmode="transparent" />  
<script type="text/javascript">  
clip = new ZeroClipboard.Client();  
.....  
</script>
```

(3)Clipboard paste using ActiveX controls or components. Can develop a client Applet components

using java , or develop an ActiveX control on windows using just like VB and VC language to fulfill related purposes[7],[8],[9]. However, the disadvantage of this approach is that components or controls need to be registered and signed with certification when browsing, and components or controls need to be installed on the client, more trouble.

3. Paste Image in CKEditor

In order to realize the image pasting feature in CKEditor, the following steps need to be followed.

(1) Firstly, custom a button for pasting the clipboard image. The specific method is:

- Change the contents of the CKEditor config file (filename is config.js). Add a statement in config.js, just like: “config.extraPlugins = 'imagepaste'”, modified config.js file is as follows:

```
//Config.js
CKEDITOR.editorConfig = function( config )
{
    // Define changes to default configuration here.
    For example:
    config.language = 'zh-cn';
    config.extraPlugins = 'imagepaste';
};
```

- Add plug-in In CKEditor plugins directory. Can create a subdirectory called imagepaste in CKEditor plugins directory , and create a file named plugin.js in imagepaste subdirectory. When click the image pasting button in the CKEditor, it will automatically perform plugin.js file, described abstractly as follows[10].

```
//plugin.js
/*
 * @file image paste plugin for CKEditor
 * Feature introduced in:
 * https://bugzilla.mozilla.org/show_bug.cgi?id=490879
 * Copyright (C) 2011 Alfonso Martez de Lizarrondo
 */
.....
```

(2) Custom contents of plugin.js for Firefox browser. When Firefox is used by users to browse at client, it can encode clipboard images to png Base64 format directly, and output the coding results as a string to CKEditor. So, while pasting the image in the clipboard , only need to read the corresponding data from CKEditor using javascript statement simply , and send to the web server as the mode of Ajax Asynchronous Transfer, and processed by the corresponding php program(such as decoding and generating png image files). The main statement is as follows:

```
/******plugin.js*****
*****
// Handles image pasting in Firefox
CKEDITOR.plugins.add( 'imagepaste',
```

```
{
    init : function( editor )
    {
        // Paste from clipboard:
        editor.on( 'paste', function(e) {
            var html = e.data.html;
            // Replace data: images in Firefox and upload them
            e.data.html = html.replace( //g ,
            function( img ){
                var data =
            img.match(/"data:image\/png;base64,(.*)"[/1];
                var id = CKEDITOR.tools.getNextId();
                var url=
            editor.config.filebrowserImageUploadUrl +
            '&CKEditor=' + editor.name +
            '&CKEditorFuncNum=2&langCode=' +
            editor.langCode;
                var xhr = new XMLHttpRequest();
                xhr.open("POST", url);
                xhr.onload = function() {
                    // Upon finish, get the url and update the file
                    var imageUrl =
            xhr.responseText.match(/2,\s*(.*)"[/1];
                    var theImage =
            editor.document.getById( id );
                    theImage.data( 'cke-saved-src',
            imageUrl);
                    theImage.setAttribute( 'src', imageUrl);
                    theImage.removeAttribute( 'id' );
                }
                // Create the multipart data upload.
                // Is it possible somehow to use FormData
                instead?
                Boundary=.....;
                xhr.setRequestHeader("Content-Type",
            "multipart/form-data; boundary=" + BOUNDARY);
                xhr.sendAsBinary(req);
                return img.replace(/>/, ' id="' + id + ">')
            );
        });
    } //Init
} );
```

(3) Develop image pasting ActiveX controls for IE browser(use digital signature if necessarily), and custom contents of the plugin.js file. May use VB to develop ActiveX[11]. The ActiveX controls should have these functionalities: one is can copy Image files from client machine and paste it into our CKEditor; two is can upload pasted image onto web server; three is can use any image content like Microsoft Paint to use cropped part of any image, or Print Screen etc. To specific ActiveX implementation, using the following routines:

```
' Clipboard routines.
Private Declare Function OpenClipboard Lib
"USER32" (ByVal hWnd As Long) As Long
Private Declare Function CloseClipboard Lib
"USER32" () As Long
```

```

Private Declare Function SetClipboardData Lib
"USER32" (ByVal wFormat As Long, ByVal hMem
As Long) As Long
Private Declare Function GetClipboardData Lib
"USER32" (ByVal wFormat As Long) As Long
Private Declare Function DragQueryFile Lib
"shell32.dll" Alias "DragQueryFileA" (ByVal
drop_handle As Long, ByVal UINT As Long, ByVal
lpStr As String, ByVal ch As Long) As Long
' Global memory routines.
Private Declare Function GlobalAlloc Lib
"kernel32" (ByVal wFlags As Long, ByVal dwBytes
As Long) As Long
Private Declare Function GlobalFree Lib "kernel32"
(ByVal hMem As Long) As Long
Private Declare Function GlobalLock Lib "kernel32"
(ByVal hMem As Long) As Long
Private Declare Function GlobalUnlock Lib
"kernel32" (ByVal hMem As Long) As Long
Private Declare Sub CopyMem Lib "kernel32" Alias
"RtlMoveMemory" (Destination As Any, Source As
Any, ByVal Length As Long)
Private Function ClipboardGetFiles() As String()
Private Function createTargetDir(strTargetDirPath)
As Boolean
Public Function getCopiedImage(strDirPath As
String) As String
Function UploadFiles(strFileName1 As String,
strUrl As String, Optional postVar As String,
Optional strUserName As String, Optional
strPassword As String) As String

```

In order to realize the function of pasting images, multiple DIVs and <object> or <embed> tags are needed. Meanwhile, when an image is being loaded to web server, a folder called Upload with appropriate privileges must be exist. In config.js, these statements are written as follows:

```

//*****plugin.js*****
*****
// Handles image pasting in Firefox

```

```

CKEDITOR.plugins.add( 'imagepaste',
{
    init : function( editor )
    {
        // Paste from clipboard:
        editor.on( 'paste', function(e) {
            .....
            var
div_obj=document.getElementById("pasteimage");
            div_obj.innerHTML=" <object
id="ClipboardActiveX"
classid="CLSID:D472AFDE-DA5E-43BA-9A5F-
4F21882AAE4A"
codebase="ClipboardActiveX.dll"></object>";
            //embed an ClipboardActiveX object ,
            //if browser demands sign, ClipboardActiveX muse
            be signed in advance.
            objActiveX =
document.getElementById("ClipboardActiveX");
            var strFilePath =
objActiveX.getCopiedImage(PhysicalPathForTempI
mage);
            document.getElementById("img" +
selectedDIV).style.display = "block";
            document.getElementById("img" +
selectedDIV).src = strFilePath;

            function uploadImage1(strFileName){
                response =
objActiveX.UploadFiles(strFileName,strURL,postVa
r);
                .....
            }
        });
    } //Init
});

```

Totally, Paste image from clipboard using javascript is a very good function, we have realized this function successfully in our e-commerce experiment system, and user responses are very good (As figure 1).



Figure 1. paste image from clipboard using javascript in elp experiment

Acknowledgment

This research is supported by E-commerce teaching standard, of Shanghai education Commission.

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Vitae



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