

SWF Generator ActiveX component Manual

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1 Introduction

SWF Generator ActiveX component (SWFGen) is an ActiveX component that can substitute the elements in a Macromedia© Flash movie (SWF file). It takes a SWF file (Flash 3, 4, 5, MX or MX 2004) as input and generates a new SWF file (Flash MX or Flash MX 2004). You can use it in a C#, VC, VB, Delphi or SWFKit application. You can also use it to create Flash movies dynamically in an ASP.Net web application.

The elements in a Flash movie (SWF file) can be substituted by it are

1. Action Script

SWFGen can substitute strings in the Action Script, such as the parameters of the **GetURL** method or **FSCCommand** command, the parameter of **tellTarget** methods, function names, parameter names, variable names and string values, etc. SWFGen cannot substitute a string in a button event.

E.g. The parameters of the getURL method **cannot** be changed by SWFGen for the getURL method is in a button event

```
on (release)
{
    getURL("http://www.swfkit.com", "_blank");
}
```

In the following example, the parameters of the getURL method **can** be changed by SWFGen.

```
btn.onPress = function ()
{
    getURL("http://www.swfkit.com", "_blank");
}
```

2. Text and Text Field

SWFGen can substitute the text, font, color, offset of text or text field elements, it can also substitute the variable name of a text field.

3. Image

SWFGen can substitute an image in the SWF file with a jpg file.

4. Sound

SWFGen can substitute a sound element in the SWF file exported for Action Script with a mp3 file.

5. Sound Stream

You can use SWFGen to set the main sound stream of the SWF movie with a mp3 file. If the SWF movie has already a main sound stream, it will be replaced.

2 Usage

The template (the Flash movie to be substituted) of SWFGen can be any Flash movies (SWF files). SWFGen simply loads it and parses it. When SWFGen meets an element such as an image or a sound, etc, it fires an event to ask the caller if the element needs to be replaced. If the event returns true, SWFGen replaces the element; otherwise it goes on to look for the next element.

The process of calling the SWFGen object is:

1. Writes event handlers for the SWFGen object

When SWFGen finds an element, it calls the event handler specified by you. If no event handler has been assigned, it won't modify the element. SWFGen passes an object to the event handlers. The object contains information of the element. In the event handler, if you set its NeedSub property to true or 1, SWFGen will replace the element.

For example, to replace an image in a Flash movie, you must handle the OnSubImage event. Whenever the SWFGen meets an image, it calls the event handler and passes it an object. The ID property of the object returns the identifier of the image. You can check the identifier to see whether the image needs to be replaced or not. If you want to replace the image, you must assign a jpg file to the Image property and set the NeedSub property to 1 or true. When the event handler returns, SWFGen checks the NeedSub property. If it finds that the property is set to true, it replaces the image with the specified jpg file.

```
//C#
private void OnSubImage(object obj)
{
    SWFGENLib.DataProxyImage image = (SWFGENLib.DataProxyImage)obj;

    if (image.ID == 3)
    {
        image.Image = "c:\\swfkit.jpg";
        image.NeedSub = 1;
    }
}
```

2. Creates a new instance of the SWFGen Object

```
//C#
m_xZGen = new SWFGENLib.ZGenClass();
m_xZGen.OnSubImage +=
    new SWFGENLib._IZGenEvents_OnSubImageEventHandler(this.OnSubImage);
```

3. Loads the Flash movie to substitute.

```
//C#  
m_xZGen.load("c:\\image.swf");
```

4. Saves to a new file

```
//C#  
m_xZGen.save("c:\\new.swf");
```

If you want to change the sound stream in the Flash movie, you should call the SetSoundStream method.

```
//C#  
m_xZGen = new SWFGENLib.ZGenClass();  
m_xZGen.load("c:\\soundstream.swf");  
m_xZGen.SetSoundStream("c:\\test.mp3", 1, 1);  
m_xZGen.save("c:\\output.swf");
```

3 Reference

3.1 Methods

3.1.1 load

Description

Loads a SWF file to substitute. The method fires events and does the substitutions.

Syntax

```
load(swf)
```

Parameters

swf Wide string. A string represents the full pathname of the SWF file.

Returns

If the swf is loaded successfully, returns true, else return false

3.1.2 save

Description

Saves the substituted SWF file to disk.

Syntax

```
save(swf[, compress])
```

Parameters

swf Wide string. Represents the full pathname of the output file.

compress Boolean. Optional. Default value is true. If it's set to true, the method will save a compressed movie.

Returns

If the SWF file is saved successfully, returns true, else return false

3.1.3 save2

Description

Saves the substituted SWF file to a binary stream.

Syntax

```
save2([compress])
```

Parameters

compress Boolean. Optional. Default value is true. If it's set to true, the method will save a compressed movie.

Returns

A binary stream.

Example

```
//C#  
Object obj = m_xZGen.save2();  
Response.BinaryWrite((byte[])obj);
```

3.1.4 SetSoundStream

Description

Sets the main sound stream of the SWF file. The SWF file must have been loaded.

Syntax

```
SetSoundStream(mp3, startFrame[, completely])
```

Parameters

- `mp3` Wide string. Represents the full pathname of a mp3 file. SWF-Gen support only mp3 files.
- `startFrame` Integer. Specifies the index of the first frame that the sound stream will be inserted into. The index of the first frame in a Flash movie is 1.
- `completely` Boolean. Optional. Default value is false. The mp3 file may be too large to insert all its samples. If this parameter is false, the mp3 file will be truncated to fit the movie; otherwise the movie will be expanded to hold the sound stream.

Returns

Nothing

Example

```
//Insert a mp3 from frame 5  
m_xZGen.SetSoundStream("my.mp3", 5);
```

3.1.5 Init

Description

Register the SWFGen ActiveX component. If the SWFGen object hasn't been registered using this method, it will generate a banner in the output movie.

Syntax

```
Init(lickey)
```

Parameters

- `lickey` Wide string. The license key of SWFGen.

Returns

Nothing

Example

```
//C#  
m_xZGen = new SWFGENLib.ZGenClass();  
m_xZGen.Init("xxxxxxxxxxxxxxxxxxxxxxxxxxxx");
```

3.2 Properties

3.2.1 _height

Description

Represents the height of the movie. Integer

Syntax

SWFGen._height

3.2.2 _width

Description

Represents the width of the movie. Integer

Syntax

SWFGen._width

3.2.3 frameCount

Description

Represents the frame count of the movie. Integer. Read-only

Syntax

SWFGen.frameCount

3.2.4 frameRate

Description

Represents the frame rate of the movie. Integer. Read-only

Syntax

SWFGen.frameRate

3.2.5 size

Description

Represents the file size of the movie. Integer. Readonly

Syntax

SWFGen.size

3.2.6 GetExportTable

Description

Boolean. read-only. Tells the SWFGen object if it needs to collect the export tables in a movie. It's useful in sound substituting. If this property is set to true, the SWFGen can get the name of a linked sound and pass it to the event handler.

Syntax

SWFGen.GetExportTable

Example

```
//C#
private void init()
{
    m_xZGen = new SWFGENLib.ZGenClass();
    m_xZGen.OnSubSound +=
        new SWFGENLib._IZGenEvents_OnSubSoundEventHandler(this.OnSubSound);
    m_xZGen.GetExportTable = true;
}

private void OnSubSound(object obj)
{
```

```

SWFGENLib.DataProxySound sound = (SWFGENLib.DataProxySound)obj;

//if the GetExportTable property is set to false,
//sound.ExportName will be empty
if (sound.ExportName == "mlh.mp3")
{
    sound.Mp3File = "c:\\test.mp3";
    sound.NeedSub = true;
}
}

```

3.3 Events

3.3.1 OnSubActionGetUrl

Description

Fires when the SWFGen object meets a **GetURL** method in the Action script

Syntax

```

void OnSubActionGetUrl(object)
{
}

```

Parameters

object A DataProxyGetUrl object contains the following properties

1. **Url** Wide string. Represents the url parameter of the GetURL method
2. **Target** Wide String. Represents the target parameter of the GetURL method.
3. **NeedSub** Boolean. Specifies if the element needs to be substituted. If it's set to false, SWFGen keeps the element unchanged; otherwise SWFGen substitutes the element with the specified url and target.

Notice: If the URL is FSCCommand:xxx, the method is a FSCCommand command.

Example

```

//C#
//Substitutes a FSCCommand
private void OnSubGetURL(object obj)
{

```

```

SWFGENLib.DataProxyGetUrl url = (SWFGENLib.DataProxyGetUrl)obj;

if (url.Url == "fscommand:exec")
{
    url.Target = "c:\\1.exe";
    url.NeedSub = 1;
}
}

```

3.3.2 OnSubActionGotoFrame

Description

Fires when the SWFGen object meets a **gotoAndPlay** or **gotoAndStop** action

Syntax

```

void OnSubActionGotoFrame(object)
{
}

```

Parameters

object A DataProxyString object contains the following properties

1. **String** Wide string. Represents the label of the frame (target of the gotoAndPlay method or the gotoAndStop method).
2. **NeedSub** Boolean. Specifies if the element needs to be substituted. If it's set to false, SWFGen keeps the element unchanged; otherwise SWFGen substitutes the element with the specified label.

Example

```

//C#
private void OnSubGotoFrame(object obj)
{
    SWFGENLib.DataProxyString frame = (SWFGENLib.DataProxyString)obj;

    if (frame.String == "$FRAME$")
    {
        frame.String = "welcome";
        frame.NeedSub = 1;
    }
}

```

3.3.3 OnSubActionSetTarget

Description

Fires when the SWFGen object meets a **tellTarget** action

Syntax

```
void OnSubActionSetTarget(object)
{
}
```

Parameters

object A DataProxyString object contains the following properties

1. **String** Wide string. Represents the name of the target
2. **NeedSub** Boolean. Specifies if the element needs to be substituted. If it's set to false, SWFGen keeps the element unchanged; otherwise SWFGen substitutes the element with the specified target.

Notice: If the String is empty, don't substitute it.

Example

```
//C#
private void OnSubTarget(object obj)
{
    SWFGENLib.DataProxyString target = (SWFGENLib.DataProxyString)obj;
    if (target.String == "$TARGET$")
    {
        target.String = "rect";
        target.NeedSub = 1;
    }
}
```

3.3.4 OnSubActionString

Description

Fires when the SWFGen object meets a variable name or string value in the Action script.

Syntax

```
void OnSubActionString(object)
{
}
```

Parameters

object A DataProxyString object contains the following properties

1. **String** Wide string. Represents the variable name or string value.
2. **NeedSub** Boolean. Specifies if the element needs to be substituted. If it's set to false, SWFGen keeps the element unchanged; otherwise SWFGen substitutes the element with the specified string.

Example

```
//C#
private void OnSubString(object obj)
{
    SWFGENLib.DataProxyString str = (SWFGENLib.DataProxyString)obj;
    if (str.String == "I love this memory")
    {
        str.String = "http://www.swfkit.com";
        str.NeedSub = 1;
    }
}
```

3.3.5 OnSubActionFunctionName

Description

Fires when the SWFGen object meets a function in the Action script

Syntax

```
void OnSubActionFunctionName(object)
{
}
```

Parameters

object A DataProxyString object contains the following properties

1. **String** Wide string. Specifies the function name.
2. **NeedSub** Boolean. Specifies if the element needs to be substituted. If it's set to false, SWFGen keeps the element unchanged; otherwise SWFGen substitutes the element with the specified function name.

Example

```

//C#
private void OnSubFuncName(object obj)
{
    SWFGENLib.DataProxyString name = (SWFGENLib.DataProxyString)obj;

    if (name.String == "$show_result$")
    {
        name.String = "showit";
        name.NeedSub = 1;
    }
}

```

3.3.6 OnSubActionParameterName

Description

Fires when the SWFGen object meets a function parameter in the Action script.

Syntax

```

void OnSubActionParameterName(object)
{
}

```

Parameters

object A DataProxyString object contains the following properties

1. **String** Wide string. Specifies name of the function parameter.
2. **NeedSub** Boolean. Specifies if the element needs to be substituted. If it's set to false, SWFGen keeps the element unchanged; otherwise SWFGen substitutes the element with the specified parameter name.

Example

```

//C#
private void OnSubParamName(object obj)
{
    SWFGENLib.DataProxyString param = (SWFGENLib.DataProxyString)obj;

    if (param.String == "$param0$")
    {
        param.String = "head";
        param.NeedSub = 1;
    }
}

```

```

    }
    else if (param.String == "$param1$")
    {
        param.String = "body";
        param.NeedSub = 1;
    }
    else if (param.String == "$param2$")
    {
        param.String = "tail";
        param.NeedSub = 1;
    }
}

```

3.3.7 OnBeforeSubText

Description

Fires when the SWFGen object meets a text or text field element in the movie.

Syntax

```

void OnBeforeSubText(object)
{
}

```

Parameters

object A DataProxyString object contains the following properties

1. **NeedSub** Boolean. If you set it to true, the SWFGen object will substitute the text or text field elements by firing the **onSubText** or **onSubEditText** event, otherwise, it does nothing. The **onSubText** or **onSubEditText** method won't be fired at all.

3.3.8 OnSubText

Description

Fires when the SWFGen object meets static text in the movie and the **onBeforeSubText** event has been handled properly.

Syntax

```

void OnSubText(object)
{
}

```

Parameters

object A DataProxyText object contains the following properties

1. **FontName** Wide string. Represents the font name of the text. It can be a font name or a font file name, such as 'Arial' or 'c:\windows\fonts\arial.ttf'. If many text elements or text fields use the same font, you can only set it in the first element, and all the elements followed will use the same font you set for the first one (font name, bold and italic property). If the font doesn't exist, the system font will be used instead.
2. **Bold** Boolean. Specifies the weight of the font.
3. **Italic** Boolean. Specifies an italic font if set to true.
4. **Height** Integer. Specifies the font height.
5. **Color** Integer. Specifies the text color
6. **Alpha** Integer. Specifies the transparency of the text
7. **Text** Wide string. Specifies the caption of the text element
8. **x** Integer. Specifies the horizontal offset of the text
9. **y** Integer. Specifies the vertical offset of the text
10. **Advance** Integer. Specifies the advance width.

Example

```
//C#
private void OnBeforeSubText(object obj)
{
    SWFGENLib.IDataProxyString text = (SWFGENLib.IDataProxyString)obj;
    text.NeedSub = 1;
}

private void OnSubText(object obj)
{
    SWFGENLib.DataProxyText text = (SWFGENLib.DataProxyText)obj;
    text.FontName = "Verdana";
    if (text.Text == "Static Text 0")
    {
        text.Text = "SWF Generator ActiveX Object";
        text.Italic = 1;
    }
    else if (text.Text == "Static Text 1")
    {
        text.Text = "http://www.swfkit.com";
        text.Color = 0xFF0000;
    }
}
```

```

private void OnSubEditText(object obj)
{
    SWFGENLib.DataProxyEditText text = (SWFGENLib.DataProxyEditText)obj;
    switch (text.Text)
    {
        case "Dynamic Text 0":
            text.Text = "Hello world";
            text.FontName = "Verdana";
            text.FontChars = " abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ";
            text.Bold = 1;
            text.Italic = 1;
            break;
        case "Dynamic Text 1":
            text.Text = "Test Test Test";
            text.FontName = "Verdana";
            break;
        case "Input Text 0":
            text.Text = "adalfsagfsgdshdh";
            break;

        case "Input Text 1":
            text.Text = "szfsdgdhfdjhfgjkghkg";
            break;
    }
}

```

3.3.9 OnSubEditText

Description

Fires when the SWFGen object meets a text field in the movie and the **onBeforeSubText** event has been handled properly.

Syntax

```

void OnSubEditText(object)
{
}

```

Parameters

object A DataProxyEditText object contains the following properties

1. **flags** Integer. Specifies which property of the object will be used in substitution. It can be one of the following values:

text field has default text	0x0080
text will wrap automatically when the end of line is reached	0x0040
text field is multi-line and will scroll automatically	0x0020
all characters are displayed as an asterisk (password)	0x0010
text editing is disabled (read only)	0x0008
use specified color	0x0004
maximum length of string is specified by the MaxLength property	0x0002
use specified font (FontName, Bold and Italic) and height (FontHeight)	0x0001
sizes to content	0x4000
Layout information provided.(Align, Leftmargin, Rightmargin, Indent, Leading)	0x2000
Enables or disables interactive text selection	0x1000
Causes a border to be drawn around the text field	0x0800
HTML content	0x0200
Use the outlines of the font. The FontChars property must include all of the possible characters. SWFGen will fetch the outlines of all characters in the FontChars property from the font file and save them in the movie. The text field uses these outlines to draw the outline of a character. If there is no outline for a character, the character will be invisible.	0x0100

2. **FontName** Wide string. Represents the font name of the text. It can be a font name or a font file name, such as 'Arial' or 'c:\windows\fonts\arial.ttf'. If many text elements or text fields use the same font, you can only set it in the first element, and all the elements followed will use the same font you set for the first one (font name, bold and italic property). If the font doesn't exist, the system font will be used instead.
3. **Bold** Boolean. Specifies the weight of the font.
4. **Italic** Boolean. Specifies an italic font if set to true.
5. **FontHeight** Integer. Specifies the font height.
6. **Color** Integer. Specifies the text field color. You must also specify the alpha value. E.g. 0xFF0000FF is red, alpha = 100.
7. **MaxLength** Integer. Specifies the maximum length of the text field
8. **Text** Wide string. Specifies the caption of the text field element
9. **Align** Integer. Alignment of the text. It can be one of the following values:
 - 0 Left
 - 1 Right
 - 2 Center
 - 3 Justify
10. **LeftMargin** Integer. Specifies the left margin of the text.
11. **RightMargin** Integer. Specifies the right margin of the text.
12. **Indent** Integer. Specifies the indent of the text.
13. **Leading** Integer. Specifies the leading of the text.
14. **VarName** Wide string. Specifies the variable name of the text field.
15. **FontChars** Wide string. Specifies the possible characters in the text field.

Example

```
private void OnBeforeSubText(object obj)
{
    SWFGENLib.IDataProxyString text = (SWFGENLib.IDataProxyString)obj;
    text.NeedSub = 1;
}

private void OnSubText(object obj)
```

```

{
    SWFGENLib.DataProxyText text = (SWFGENLib.DataProxyText)obj;
    text.FontName = "Verdana";
    if (text.Text == "Static Text 0")
    {
        text.Text = "SWF Generator ActiveX Object";
        text.Italic = 1;
    }
    else if (text.Text == "Static Text 1")
    {
        text.Text = "http://www.swfkit.com";
        text.Color = 0xFF0000;
    }
}

private void OnSubEditText(object obj)
{
    SWFGENLib.DataProxyEditText text = (SWFGENLib.DataProxyEditText)obj;
    switch (text.Text)
    {
        case "Dynamic Text 0":
            text.Text = "Hello world";
            text.FontName = "Verdana";
            text.FontChars = " abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ";
            text.Bold = 1;
            text.Italic = 1;
            break;
        case "Dynamic Text 1":
            text.Text = "Test Test Test";
            text.FontName = "Verdana";
            break;
        case "Input Text 0":
            text.Text = "adalfsagfsgdshdh";
            break;
        case "Input Text 1":
            text.Text = "szfsdgdhfdjhfgjkghkg";
            break;
    }
}

```

3.3.10 OnSubImage

Description

Fires when the SWFGen object meets an Image element in the movie.

Syntax

```
void OnSubImage(object)
{
}
```

Parameters

object A DataProxyImage object contains the following properties

1. **ID** Integer. Read-only. Represents the identifier of the image.
2. **Image** Wide string. Specifies the full path name of a jpg file used to replace the image element. SWFGen supports only jpg files.
3. **NeedSub** Boolean. Specifies if the element needs to be substituted. If it's set to false, SWFGen keeps the element unchanged; otherwise SWFGen substitutes the element with the specified jpg file.

Example

```
private void OnSubImage(object obj)
{
    SWFGENLib.DataProxyImage image = (SWFGENLib.DataProxyImage)obj;

    if (image.ID == 3)
    {
        image.Image = "c:\\swfkit.jpg";
        image.NeedSub = 1;
    }
}
```

3.3.11 OnSubClipName

Description

Fires when the SWFGen object meets an instance of a movie clip or component.

Syntax

```
void OnSubClipName(object)
{
}
```

Parameters

object A DataProxyString object contains the following properties

1. **String** Wide string. Specifies the instance name of the movie clip.
2. **NeedSub** Boolean. Specifies if the element needs to be substituted. If it's set to false, SWFGen keeps the element unchanged; otherwise SWFGen substitutes the element with the specified instance name.

Example

```
//C#
private void OnSubClipName(object obj)
{
    SWFGENLib.DataProxyString name = (SWFGENLib.DataProxyString)obj;

    if (name.String == "$CLIPNAME$")
    {
        name.String = "rect";
        name.NeedSub = 1;
    }
}
```

3.3.12 OnSubFrameLabel

Description

Fires when the SWFGen object meets a frame label.

Syntax

```
void OnSubFrameLabel(object)
{
}
```

Parameters

object A DataProxyString object contains the following properties

1. **String** Wide string. Specifies the label of the frame.
2. **NeedSub** Boolean. Specifies if the element needs to be substituted. If it's set to false, SWFGen keeps the element unchanged; otherwise SWFGen substitutes the element with the specified frame label.

Example

```

//C#
private void OnSubFrameLabel(object obj)
{
    SWFGENLib.DataProxyString name = (SWFGENLib.DataProxyString)obj;

    if (name.String == "$FRAME$")
    {
        name.String = "welcome";
        name.NeedSub = 1;
    }
}

```

3.3.13 OnSubSound

Description

Fires when the SWFGen object meets a sound (sound event, not a sound stream).

Syntax

```

void OnSubSound(object)
{
}

```

Parameters

object A DataProxySound object contains the following properties

1. **ExportName** Wide string. Represents the name of the sound. Read-only. You must set the GetExportTable property of the SWFGen object to true, otherwise, the ExportName will be empty.
2. **ID** Integer. Represents the id of the sound. Read-only.
3. **Mp3File** Wide string. Specifies the full path name of a mp3 file used to replace the sound. SWFGen supports only mp3 files.
4. **NeedSub** Boolean. Specifies if the element needs to be substituted. If it's set to false, SWFGen keeps the element unchanged; otherwise SWFGen substitutes the element with the specified mp3 file.

Example

```

//C#
private void OnSubSound(object obj)
{

```

```
SWFGENLib.DataProxySound sound = (SWFGENLib.DataProxySound)obj;

if (sound.ExportName == "mlh.mp3")
{
    sound.Mp3File = "c:\\test.mp3";
    sound.NeedSub = true;
}
}
```