

# **How to check and improve accessibility of Flash content using aDesigner**

*Accessibility Tools Framework  
(ACTF) Project*

Oct. 2, 2012

# How to proceed

- Read (A), (B) and (C) when you use aDesigner at the first time.
- Read sections after (1) for how to check accessibility.

Note: Current version of aDesigner can obtain detailed information of only a part of Flash 10 (or later) content.

# (A) Start aDesigner and select Flash mode



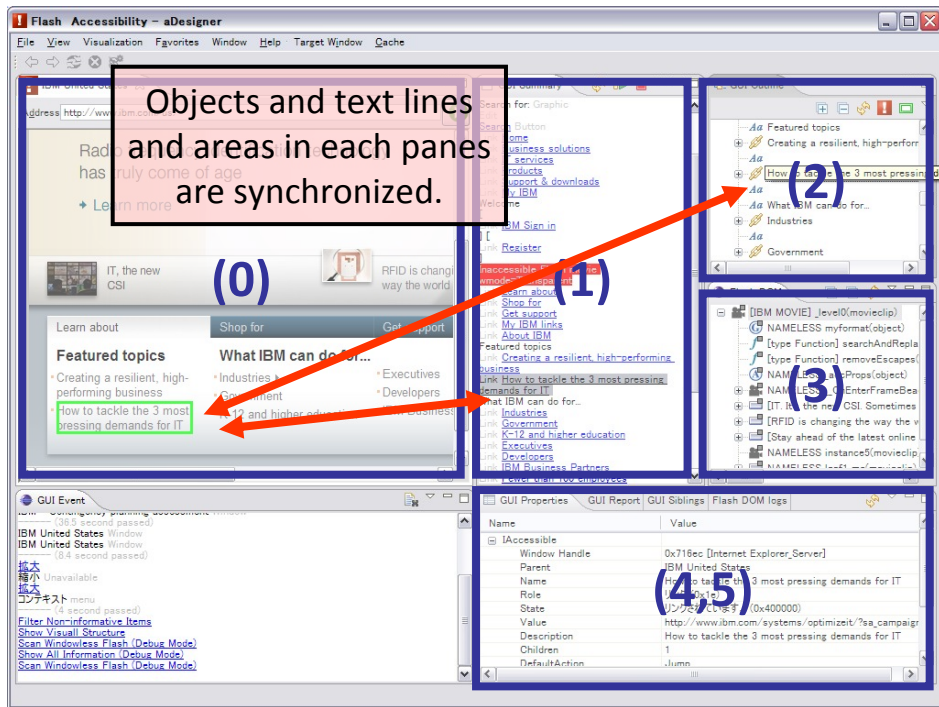
- Select the “Flash Accessibility” in the mode selection dialog.
- Tip: You can see this dialog by selecting **File > Switch mode** in the menu bar.

## (B) “Cache clear” dialog



- After you selected Flash mode (at least the first time) a confirmation dialog is shown.
- We recommend the first option (recommended one) for aDesigner working reliably, which makes aDesigner clear IE’s Internet cache whenever it starts, without showing this dialog.
- If you choose the second item (“for this time”), you’ll be asked again at next time you start aDesigner
- Tip: You can change this settings later from **Window > Preferences...** in the menu bar.

# (C) GUI Overview after started



GUI layout after aDesigner started is normally as in the figure above (description for some tabs are omitted):

## 0. Browser view

Standard web browser. Navigate to the web page you want to check.

## 1. GUI Summary view

Read text generated by a screen reader is shown, convenient for accessibility checking..

## 2. GUI Outline view

An object tree recognized via MSAA (accessibility mechanism on Windows OS) is shown. Each icons express the type of the object. Content in the GUI Summary view are made of information obtained here.

## 3. Flash Outline view (For experts)

Flash objects tree retrieved by the JavaScript-ActionScript bridge.

You can switch views 4 and 5 by clicking tabs.

## 4. GUI Properties view (For experts)

Detailed information of the selected object shown in the GUI Outline view or Flash Outline view.

## 5. GUI Report view

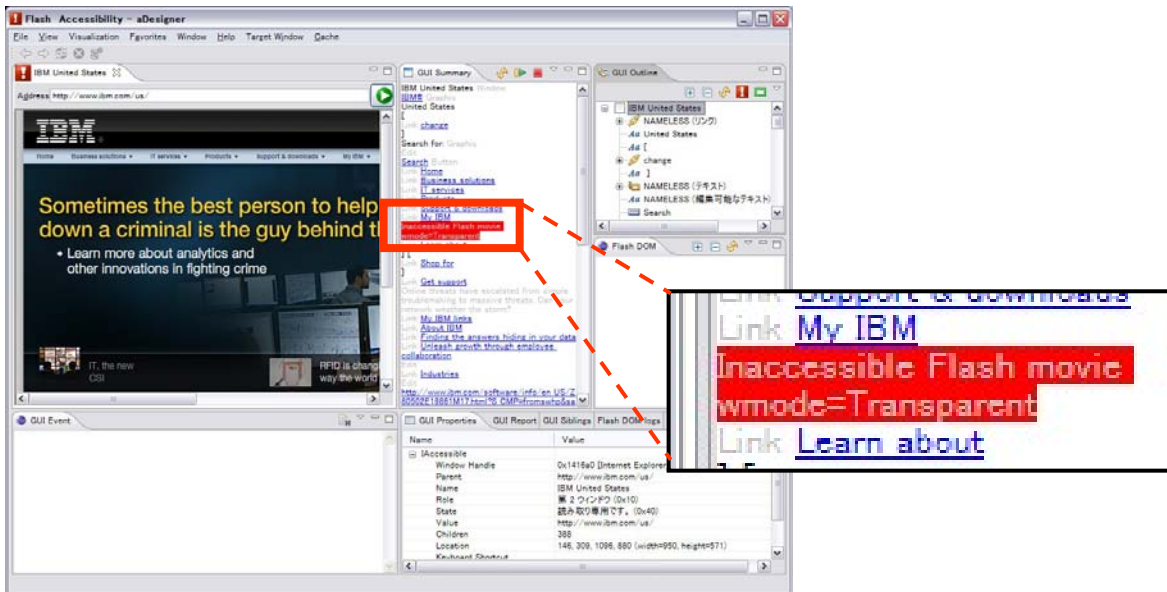
Checking results for accessibility are shown.

By clicking "Show problems on screen", icons indicating errors and warnings are overlaid on the Browser view. It is useful for identifying their visual location

# How to check and fix accessibility using aDesigner

- Checking accessibility following the steps below are recommended:
  - 1. Fixing inaccessible Flash movies
  - 2. Providing alternative text
  - 3. Controlling reading order

# Fixing inaccessible Flash content

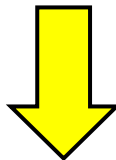


- This error (denoted by red background) in GUI Summary means that screen readers cannot detect existence of the entire Flash content.
  - “wmode = Transparent” means that the Flash content is embedded in HTML in Transparent mode.

# Resolution for (1)

- Remove specification of wmode in HTML that embeds the Flash content.

```
<object width='100' height='100'>  
  ...  
  <param name='movie' value='...'>  
  <param name='wmode' value='transparent'>  
  <embed src='...' wmode='transparent' ...></embed>  
</object>
```

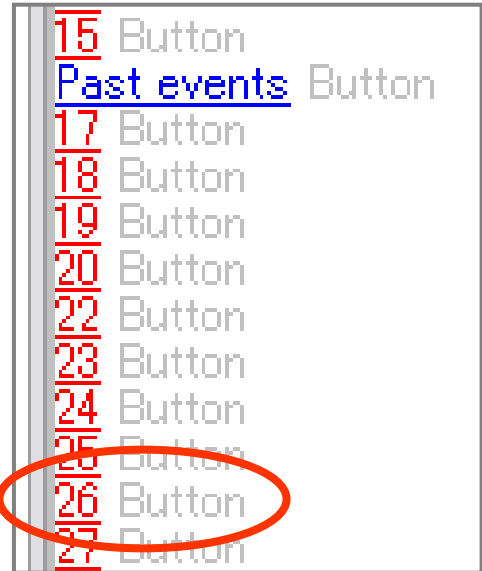


```
<object width='100' height='100'>  
  ...  
  <param name='movie' value='...'>  
  <embed src='...' ...></embed>  
</object>
```

- Note: Side effects: web page's look and feel might change by doing this.

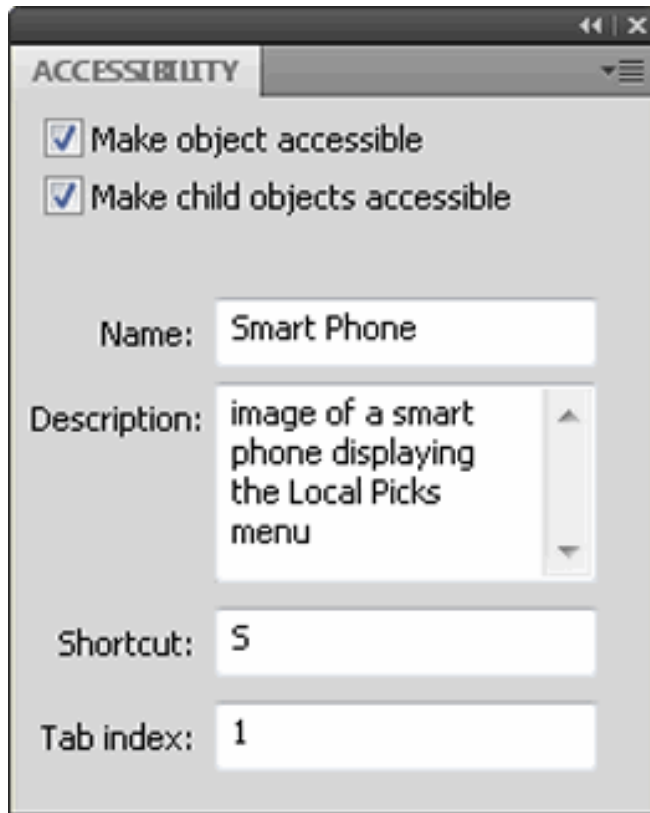


## (2) Providing alternative text



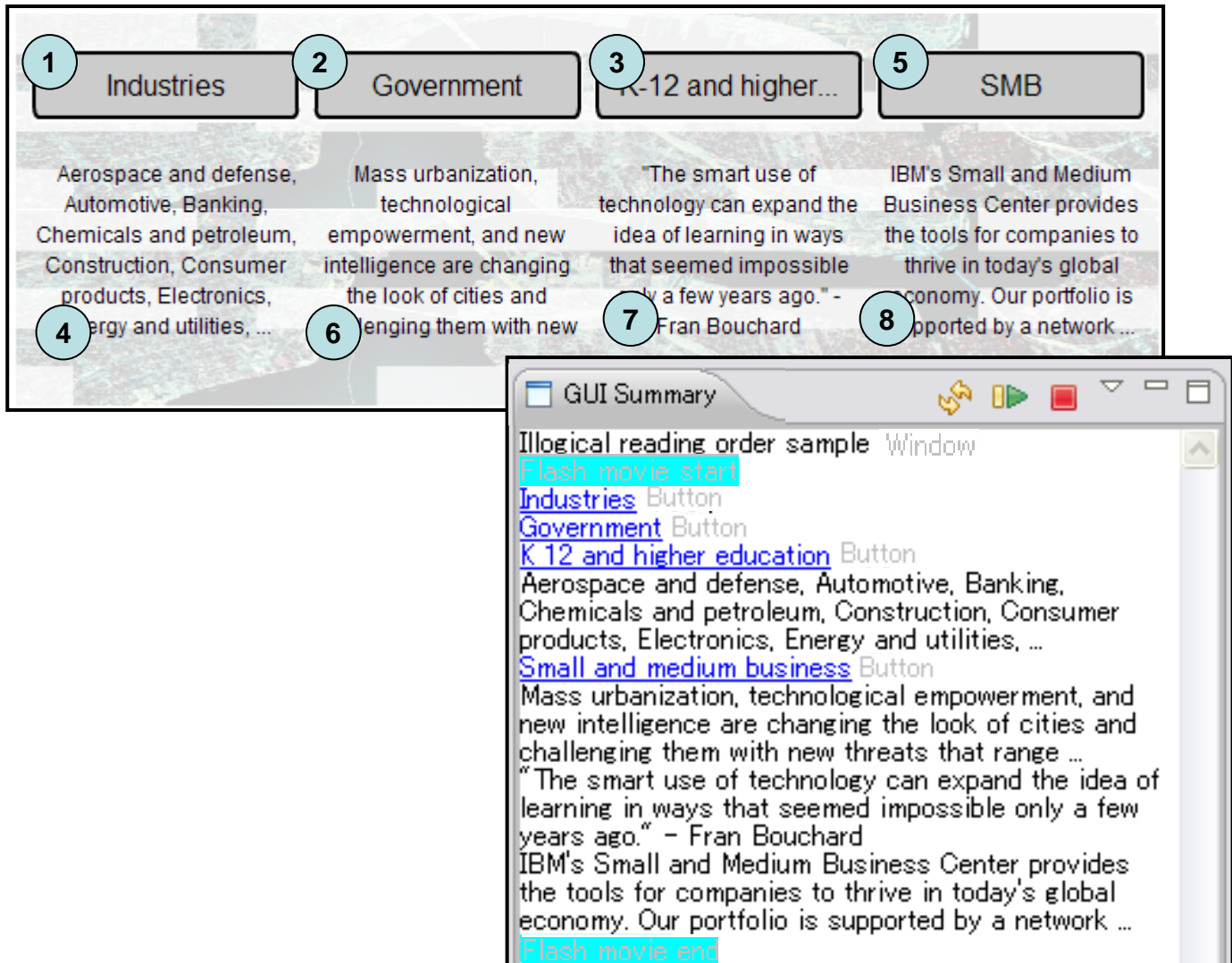
- Looks for rows such as
  - “<Number> Button”
  - “<Number> Graphic”in GUI Summary and click one of them. The corresponding element in the Browser view is highlighted.
- Screen readers read out just (automatically assigned) numbers because of lack of alternative text information for graphic images.

## Resolution for (2)



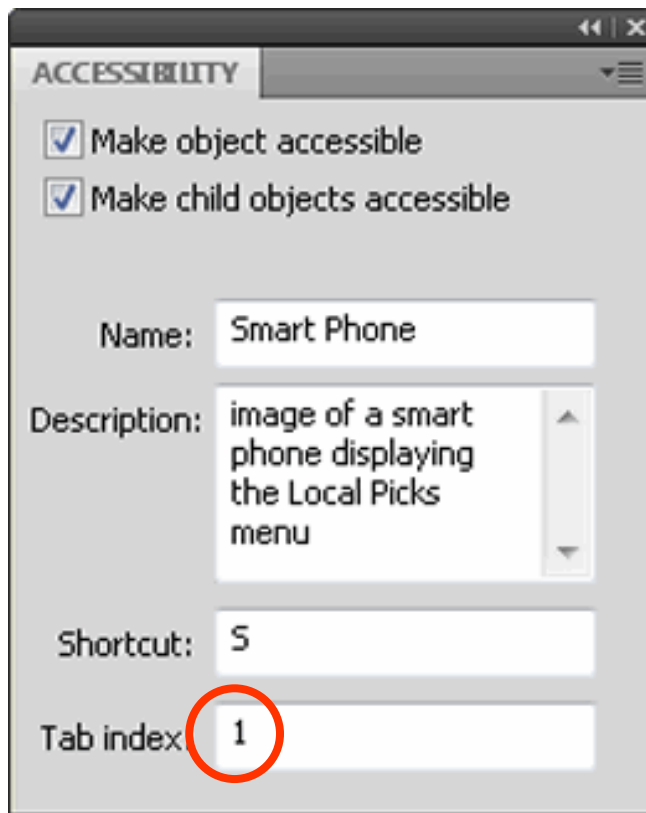
- Using a Flash authoring tool (e.g. Adobe Flash Professional CS6), Provide **name** of the graphic in “Accessibility” panel.

# (3) Controlling reading order



- Check if reading order in GUI Summary view (from top to bottom) is natural
  - The example above should be read in column-wise way, left to right, while actually read in unnatural order (orders are denoted in circles).
  - FYI: If developer of the content does not specify at all, reading order of elements is automatically computed by Flash Player, based on their screen location.

# Resolution for (3)



- Provide element's **TabIndex** value in the Accessibility panel, as in (2)
  - Tabindex should be a natural number
  - Element with smaller tabindex value will be read first
  - It will be easy to change order later if you provide values of multiples of 10
- Tip: Tabindex can be set programmatically using ActionScript.  
[http://www.adobe.com/resources/accessibility/best\\_practices/best\\_practices\\_acc\\_flash.pdf](http://www.adobe.com/resources/accessibility/best_practices/best_practices_acc_flash.pdf)

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