



## INTERACTIVE SIMULATION

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### Abstract

We can see that under some conditions we need to convert SWF into HTML5 canvas for which we will need an SWF to HTML5 Converter. There are many SWF to HTML5 Converters on the internet among which Animated CC launched by Adobe and Swiffy launched by Google. But Google Swiffy only suits for simple coding projects not for complex projects; Not all Action Script 2.0 and 3.0 in SWF can be converted into HTML5 and also cannot be editable easily.

Today more consumers or end users are using the web in HTML5 compatible environments than Flash-compatible environments so In order to reach as large an audience as possible, we encourage everyone to transition to HTML5 authoring.

Developers who currently create Flash SWF files have several ways to switch to HTML5 including Adobe Animate and Google Web Designer. Video and vector based animations and sound files are designed for efficient delivery over the web. so we convert these files to fla files by some compilation and recompilation with certain code snippets with JavaScript. files are compatible by all platforms like Mac, Windows, Android and also latest Operating Systems.

**Key Terms:** Small Web Format(SWF)

### INTRODUCTION

Interactive simulation, in this work we are going to convert the SWF assets to HTML5 Canvas files. SWF asset is a flash file format stands for Small Web Format. These assets contain video and vector based animations and sound and are designed for efficient delivery over the web. These SWF assets are legacy system in market, so we convert these files to .fla extension files by decompiler which is available in internet and also

it is open source software.

Layers and images in fla files are copied to Animate CC Tool and some compilation and recompilation with certain code snippets like JavaScript files are converted into HTML5 canvas. This conversion is done through the Adobe Animate cc tool. These converted files are tested before delivering to the company and testing has to be done in different levels in order to maintain quality and accuracy of the files. These converted files are compatible by all platforms like Mac, Windows, Android, IOS and also other latest Operating Systems.

### Problem Description:

For nearly two decades, Flash Professional has been the standard for producing rich animations on the web. Because of the emergence of HTML5 and demand for animations that leverage web standards, we completely rewrote the tool over the past few years to incorporate native HTML5 Canvas and WebGL support. To more accurately represent its position as the premier animation tool for the web and beyond, Flash Professional will be renamed **Adobe Animate CC**, starting with the next release in early 2016

Today, over a third of all content created in Flash Professional uses HTML5, reaching over one billion devices worldwide. It has also been recognized as an HTML5 ad solution that complies with the latest Interactive Advertising Bureau (IAB) standards, and is widely used in the cartoon industry by powerhouse studios.

Animate CC will continue supporting Flash (SWF) and AIR formats as first-class citizens.

In addition, it can output animations to virtually any format (including SVG), through its extensible architecture. There's much more than just a name change however. Our team is hard at work on a major update with significant new features to create animations for any platform.

#### **Existing System:**

SWF stands for Small Web Format. SWF Assets were nothing but animated assets which are created using Flash Tools for the purpose of learning. Flash Tools is an open source software tool suite for creating and manipulating SWF assets. These assets were used in websites for distance education and it helps beginners to understand easily through animated assets.

SWF assets are coded using ActionScripts in Flash Tools. ActionScript is programming language for Flash player run time environments which is typically compiled into bytecode format, bytecode is embedded in SWF assets and executed by Flash Players.

#### **Disadvantages Of Existing System:**

- ⑩ SWF assets are exclusively for web application.
- ⑩ SWF assets are not supported by Android, IOS applications and other latest Operating System.
- ⑩ Compatibility Issue and cannot be edited directly.
- ⑩ Cannot play an SWF assets unless it has Macromedia Flash installed on computer.
- ⑩ Apple does not support SWF, so SWF cannot be played on iPad, iPhone, iPod Touch and Apple TV.
- ⑩ You Tube chooses HTML5 player not FLASH player as the default player.

#### **Proposed System:**

In the proposed scenario, we are going to convert the SWF assets to HTML5 canvas files. SWF assets are legacy system in market, so we convert these files to .fla extension files by decompiler. Layers and images in fla files are copied to Animated CC Tool and some compilation and recompilation with certain code snippets like JavaScript files are converted into HTML5 canvas with proper animation which should matches with the corresponding SWF assets.

This conversion is done through the Adobe Animated CC Tool. These converted files are compatible by all platforms like MAC, Windows,

Android applications and other latest Operating System. Testing has to be done to maintain quality and accuracy of the files.

#### **Advantages Of Proposed System:**

- ⑩ HTML5 canvas files are supported by Android, IOS applications and other latest Operating System.
- ⑩ Compatibility Issue is fixed.
- ⑩ Flexibility over Bitmap effects.
- ⑩ Effective animation and Graphics using Animated CC
- ⑩ Responsive nature.

#### **SOFTWARE SPECIFICATION**

#### **REQUIREMENTS**

##### **Purpose:**

Interactive simulation, in this work we are going to convert the SWF assets to HTML5 files. SWF assets is flash file format stands for Small Web Format. SWF assets are not supported by latest technology like Android (latest versions), iPad, iPhone, iPod Touch and Apple TV. These assets contain video, vector based animations, sound and are designed for efficient delivery over the web.

These SWF assets are legacy system in market, so we convert these assets to fla extension files by some compilation and recompilation with certain code snippets with JavaScript. These converted files are included to websites using HTML5. This conversion is done through the Adobe Animate CC tool. These converted files are compatible by all platforms like Mac, Windows, Android applications and other latest Operating System.

##### **Scope of the Project:**

Animate CC publishes HTML5 content using the CreateJS libraries. CreateJS is a suite of modular libraries and tools which enable rich interactive content on open web technologies via HTML5. CreateJS converts content created on stage to HTML5 using these individual libraries to produce HTML and JavaScript output files. You can also manipulate this JavaScript file to enhance your content. Animate provides native support for JavaScript with useful features within the code-editor to help improve workflow efficiency of programmers.

You can choose individual frames and keyframes on the Timeline to add interactivity

to your content. The universal document type converter enables conversion of your existing FLA projects (of any type) to any other document type such as HTML5 Canvas, ActionScript , WebGL, or a custom document type. When you convert to a format, you can take advantage of the authoring features that Animate offers for that document type.

**The Overall Description:**

In this work we are going to convert the SWF assets to HTML5 files. These assets contain video, vector based animations, sound and are designed for efficient delivery over the web, so we convert these assets to fla extension files by some compilation and recompilation with certain code snippets with JavaScript. These converted files are included to websites using HTML5 Canvas . These converted files are compatible by all platforms like Mac, Windows, Android applications and other latest Operating System. These converted files are tested before delivering to the company and testing has to be done in

different levels in order to maintain quality and accuracy of the files. if any issues find during testing then again send back to developer with QA check list issues.

**Product Prospective:**

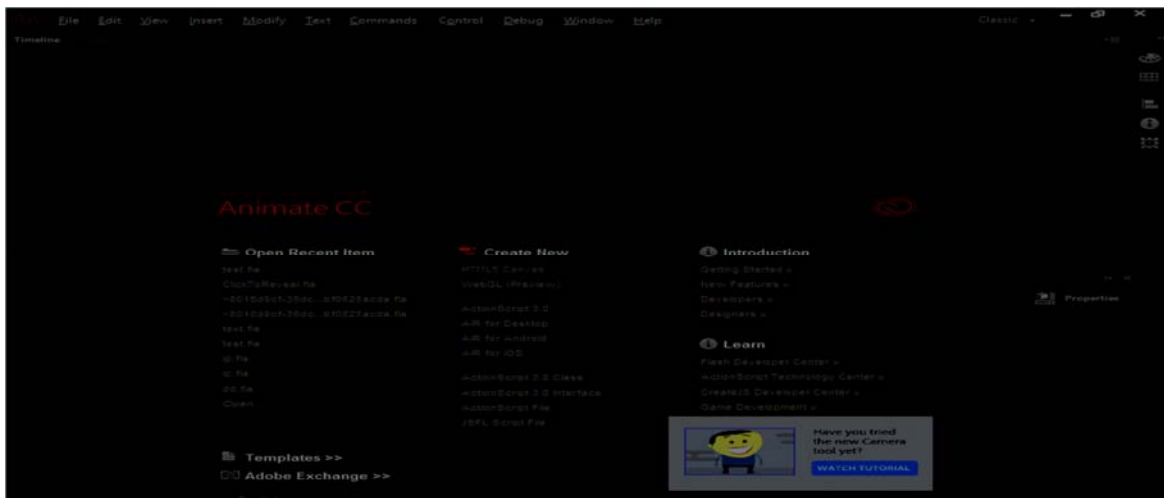
Product Perspective is to convert the animation SWF assets into HTML5 and perform Quality Analysis and Testing by checking with original SWF assets. Finally the HTML5 canvas files should be the replica of SWF assets.

**Functions and characteristics:**

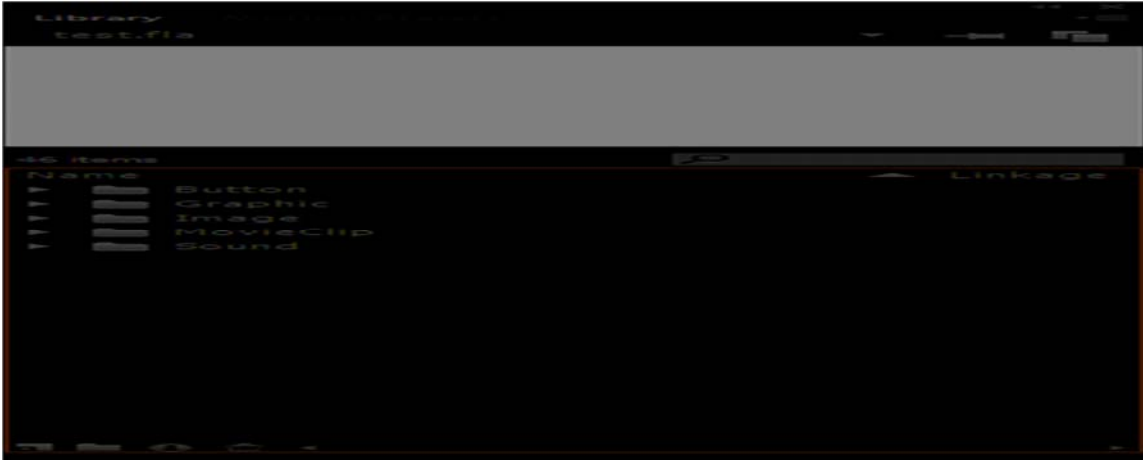
- ⑩ Decompiles the SWF assets.
- ⑩ Converts SWF assets to HTML5 canvas files using Animated CC.
- ⑩ Checks the accuracy of HTML5 files by comparing with corresponding SWF assets.
- ⑩ Quality Analysis and testing is enabled.
- ⑩ Provides global updates.

**IMPLEMENTATION**

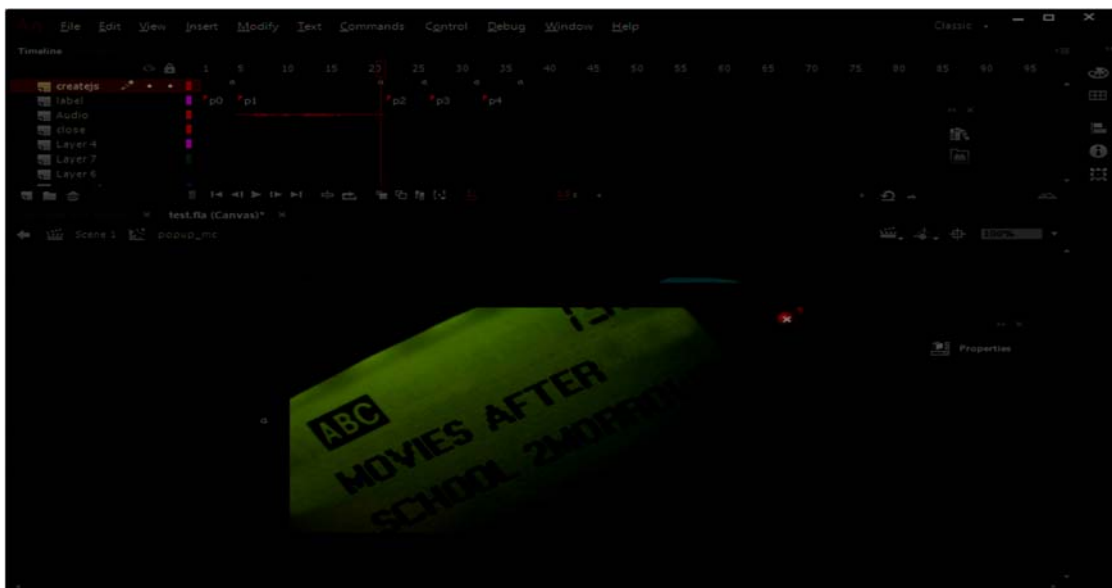
- ⑩ Analyze the file (SWF) and select appropriate template from the template library.
- ⑩ All SWF files have to be decompiled using decompiler software. Please refer the screen short below:
- ⑩ After decompilation, copy the resources from decompiled file and paste in a new HTML5 Canvas file, as shown below:



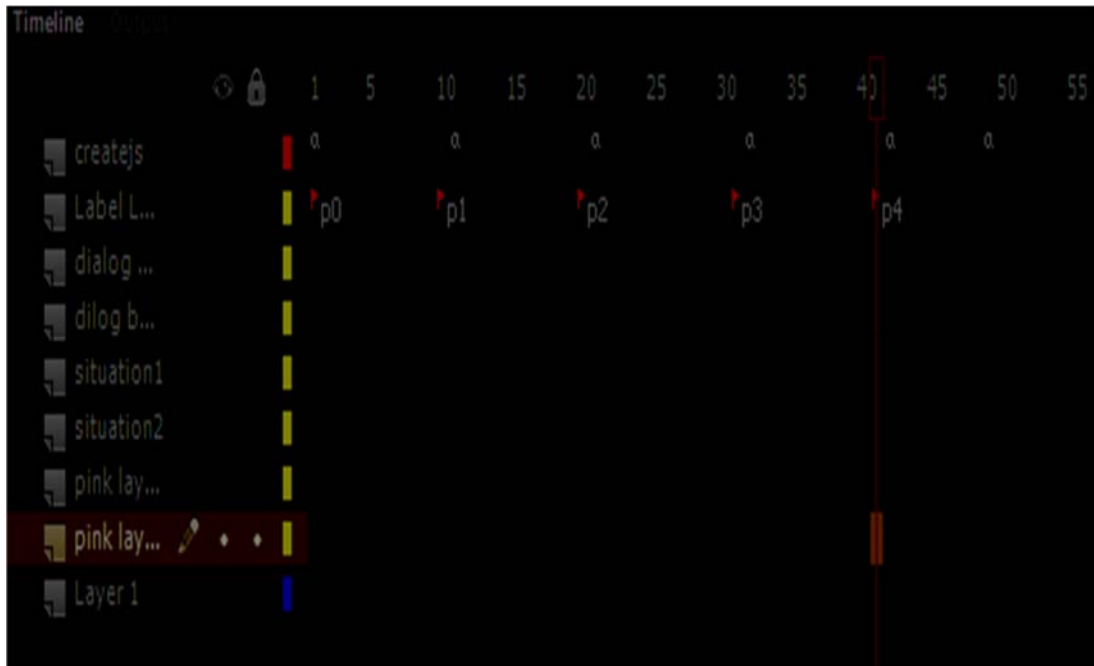
- ⑩ All the assets have to be re-arranged to its respective folders, as shown below. Sometimes we may need to re-arrange this manually.



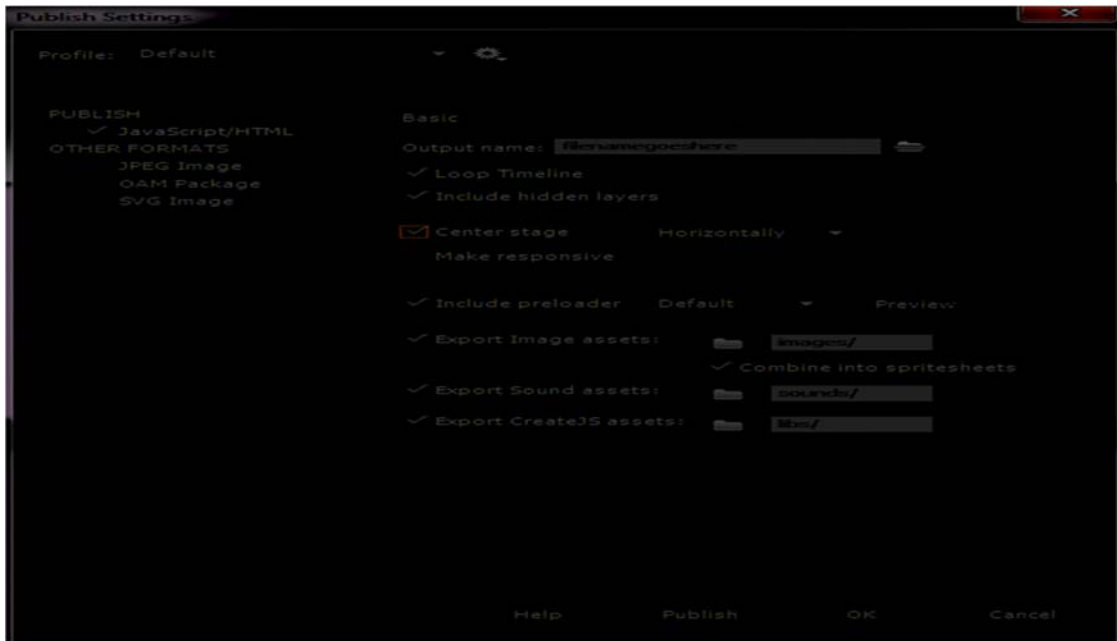
- ⑩ While decompiling, a few of the resources like image will be in shape. We need to convert to Bitmap.
- ⑩ If interaction animation is placed on the time-line. Rename the entire layer with appropriate names.

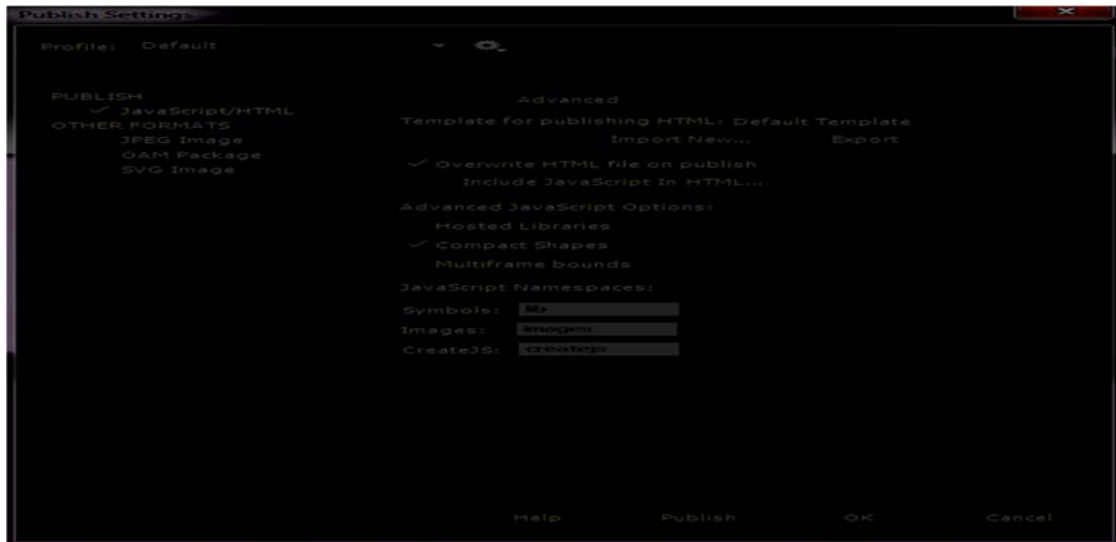


- ⑩ Create a new layer named as createjs to code according to SWF assets requirements using JavaScript.
- ⑩ Before exporting to HTML clean unused layers from timeline and objects from library as follows: If you find any layers which are not used then remove those. In this case Layer1 unused and p3 and p4 are unused.



- ⑩ Before exporting to HTML please check for below settings in the Public settings of the Animated CC.





- ⑩ After publishing, cross-check to ensure that the output matches exactly the same as the files received from the client.

## CONCLUSION

SWF assets are not supported by Android, IOS applications and other latest Operating System. Compatibility Issue and cannot be edited directly. SWF assets are exclusively for web application. You Tube chooses HTML5 player not FLASH player as the default player.

So we are converting SWF to HTML5 canvas. Today, over a third of all content created in Flash Professional uses HTML5, reaching over one billion devices worldwide. It has also been recognized as an HTML5 ad solution that complies with the latest Interactive Advertising Bureau (IAB) standards, and is widely used in the cartoon industry by powerhouse studios.

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