Technical Integration

Introduction

The purpose of this document is to describe how to best integrate a Creative into S4M technical ecosystem.

Throughout this document, we will explain how to create the "Tag.js" JavaScript which is used to create all HTML elements at runtime (HTML, CSS, other JavaScripts).

This "tag.js" script will then be called from an "index.html" placeholder and will then create the creative itself withing this placeholder.

An example of such an "index.html" will be give at the end of this document.

Note: in case you need to have double quotes (") in a JavaScript string variable, double quotes needs to be escaped with a backslash (\)

Example

<div style="border:1px dashed">

example 1

```
//This won't work and will return a syntax error:
var notWorking = "S4M means "Solutions For Mobile"";

//This will work:
var working = "S4M means \"Solutions For Mobile\"";
```

</div>

Add CSS Styles

In the "tag.js" file, dynamically create a **style** tag in JavaScript and append the **css** text content to it.

This operation need to be done before every HTML and JavaScript injection in order to ensure that any dynamically added element has a style and therefore renders properly without a glitch.

Example

```
//Add the CSS text into a variable
var styleText = "#logo {display:block;width:50%;height:10%;margin:0
auto;opacity:1;background-image:url('/public/images/logo.png');}";

//Create a new "style" html tag
var styleTag = document.createElement("style");

//Add the CSS test to the "style" tag
styleTag.innerHTML += styleText;

//Add the "style" tag to the html document header
document.head.appendChild(styleTag);
```

Add HTML Code

In the "tag.js" file, add all the **html** structure in a variable, and then inject this variable in the HTML **body** on runtime.

Example

```
//Add all HTML code in a variable
var theHTML = "<div id='toto'><p>TEST</p></div>";

//Get the current HTML document body
var body = document.body;

//Add the HTML code to the document body
body.innerHTML += theHTML; '
```

Add JavaScript Code

In the "tag.js" file, add a **script** tag via javascript, and add it to the HTML document **head**.

Make sure that this all scripts are added after **css** and **html** in order to make sure that all elements are accessible by the script when it runs.

Example

```
                              js fragment
//Add the JavaScript code in a variable
var scriptText = "var logo =
document.getElementById('logo');logo.style.display = 'block';"

//Create a new "script" html tag
var scriptTag = document.createElement("script");

//Declare the script type as JavaScript
scriptTag.type = "text/javascript";

//Add the JavaScript code to the "script" tag
scriptTag.text = scriptText;

//Add the script tag to the html document header
document.head.appendChild(scriptTag);
```

Warning: do not use the "loaded" or "DOMContentLoaded" events as these will already have been fired when your JavaScript is executed.

URL replacement

In order to ease the change of creative assets hosting locations, a single variable **absoluteAssetURL** is setup in S4M's "index.html" config like this:

```
                          index.html fragment
var _s4mConfig = {
    absoluteAssetURL : "http://dev.yancomobile.com/tmp/"
    };
```

This variable can then be used in the "tag.js" file like this for example:

```
                            tag.js fragment
var cssText = "background-image: url("+ _s4mConfig.absoluteAssetURL
+"logo-RVB.png);";
```

Where "_s4mConfig.absoluteAssetURL" will be replace by "http://dev.yancomobile.com/tmp/" to load the image file "http://dev.yancomobile.com/tmp/logo-RVB.png" as a background image for the ad container.

Full integration example

Here is a full integration exemple respecting the S4M standards for a *TAG.js*.

The following *index.html* is used for development purpose, only.

Keep in mind that, in a production environment, such a fiile would be generated dynamically by S4M Ad Server which would also replace the value "{S4M_TrackID}" with a proper S4M unique identifier.

index.html

```html
<!DOCTYPE HTML>
<html>
<head>
    <title>Template testing</title>
    <meta http-equiv="Content-Type" content="text/html; charset=utf-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0,
maximum-scale=1.0, user-scalable=0">
    <meta name="format-detection" content="telephone=no">
    <script type="text/javascript" src="mraid.js"></script>
</head>

<body id="acf-body">

  <div id="_s4m_container_{S4M_TrackID}">
      <script>
         var _s4mConfig = {
             id: "{S4M_TrackID}",
             containerId : "_s4m_container_{S4M_TrackID}",
             deviceAdvertiserId: "undefined",
             absoluteAssetURL : "http://dev.yancomobile.com/tmp/",
             clickURL : "undefined",
             trackImpURL : [],
             lat: "undefined",
             lon: "undefined"
         };
         (function(){
              var rnd = new Date().getTime();
             var _s4mScp = document.createElement('script');
             _s4mScp.src = "./tag.js?rnd="+rnd;

             document.getElementsByTagName('head')[0].appendChild(_s4mScp);
         })();
    </script>
   </div>
</body>
</html>
```

tag.js

```javascript
(function(){

  /**
   * Detect the screen size and resize the S4M ad container accordingly
   */
  var s4mAdContainer = document.getElementById(_s4mConfig.containerId);
```

```javascript
    s4mAdContainer.style.width = window.innerWidth + "px";
    s4mAdContainer.style.height = window.innerHeight + "px";

    window.addEventListener("resize", function(){
      s4mAdContainer.style.width = window.innerWidth + "px";
      s4mAdContainer.style.height = window.innerHeight + "px";
    });

    window.addEventListener("orientationchange", function(){
      s4mAdContainer.style.width = window.innerWidth + "px";
      s4mAdContainer.style.height = window.innerHeight + "px";
    });

    /**
     * Add Style
     */

    var s4mStyle = document.createElement("style");
    var cssText =
"html,body{overflow:hidden}#wrapper{position:absolute;top:0;left:0;width:1
00%;height:100%;background-color:black;background-image: url("+
_s4mConfig.absoluteAssetURL +"logo-RVB.png);background-size : contain;
background-position : center; background-repeat:no-repeat;}";

    s4mStyle.innerHTML += cssText;

    document.head.appendChild(s4mStyle);

    /**
     * Add HTML
     */

    var adHTML = "<div id='wrapper'></div>";

    s4mAdContainer.innerHTML += adHTML;

    /**
     * Add JavaSCript
     */

    var adScript = document.createElement("script");
    adScript.type = "text/javascript";

    var scriptText = "var wrapper =
document.getElementById('wrapper');wrapper.addEventListener('click',functi
on(){document.location.href='http://www.s4m.io'});";

    adScript.text = scriptText;
```

```
      s4mAdContainer.appendChild(adScript);
   }());
```

You can download this working example from here:

example.tag.js.zip