



# **MobileIntelligence**

**Application Version: MI9**

**Advanced Detailing – HTML5 Sequences Prerequisites**

## **Technical Guidelines Document**

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**Prepared by: Cegedim**

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## 1. PUBLICATION RECORD

Revision	Publication Date	Overview of Revisions
0.1	March 30, 2012	Initial Version
0.2	July 17, 2012	Add Parameters.xml files to define XML
0.3	August 22, 2012	Add Portrait Management
0.4	September 05, 2012	Added PDF information Updated Orientation Parameter info
0.5	October 17, 2012	Update Parameter info
0.7	October 30, 2012	Update 5.1.2 Export folder section
0.8	October 30, 2012	Updated 3.1 Gestures section regarding Areas' organization and size
0.10	November 6, 2012	Structure Modification
0.11	January 14, 2013	Remove Support List
0.12	Februray 01, 2013	Update parameters.xsd Attached parameters.xsd and parameters.xml files Add sequences array in the context Add addAction function Add MAP as interactive tag Add possibility to override zone 2 & 3 Add updateFeedback
0.13	February 25, 2013	How to access context
0.14	April 3, 2013	Add Event “viewappearing” Add Event “viewdisappearing” Add Event “viewappeared” Add Event “viewdisappeared” Update addAction Update context (presentation.thumbnail, presentation.seen, sequence.thumbnail, sequence.seen, sequence.feedback, sequence.timeElapsed, sequence.data, sequence.actions, sequence.assets) Manage “PDF” sequence How to manage Internal Link

Revision	Publication Date	Overview of Revisions
0.15	April 19, 2013	Update navigateToSequence Update context (sequence.product_id, sequence.message_id) Add cancel, save, sendMail
0.16	May 16, 2013	Update event management Update navigateToSequence Correct example for updateFeedback function
0.17	June 21, 2013	Update browsers support Add Event “play” Add Event “pause” Add Event “preview” Add getCurrentSequence function Add getPDF function
0.18	July 10, 2013	Add goNextSequence function Add goPreviousSequence function Rename save function (new name is postcall) Add Memory section with <ul style="list-style-type: none"> <li>- Add loadState(window)</li> <li>- Add saveState(window, state)</li> <li>- Add Event “memoryWarning”</li> </ul>
0.19	September 10, 2013	Update template plugin link
0.20	September 16, 2013	Add getIndexSequence function
0.21	October 7, 2013	How to Manage Retina Resolution How to Debug your sequence Add Page Tracking with <ul style="list-style-type: none"> <li>- Update parameters.xml</li> <li>- Add onEnterPage function</li> <li>- Add onLeavePage function</li> <li>- Update context</li> <li>- Update parameters.xsd</li> <li>- Update parameters.xml</li> </ul>
0.22	October 11, 2013	Update parameters.xsd

Revision	Publication Date	Overview of Revisions
0.23	November 5, 2013	Call Dialog Enhancement (MI9 SU6) - Manage AlphaNumeric Identifier - AddData(question_id, response_id)
0.24	November 25, 2013	Add OpenPDF function (MI9 SU5) Add pdfclosed event (MI9 SU5)
0.25	December 6, 2013	Update example for OpenPDF and getPDF Add list of MIME Type Supported Add Unit Test by Sequence Section Add Final Test by Presentation Section For email functionality, agency has to provide export.pdf
0.26	January 6, 2014	Add postcall event (MI9 SU6)

Upon approval of this document, Revision 0.26 is the current version of the *CLM MI9 – Technical Guidelines for HTML5 Presentation Creation*. Please destroy or archive all previous revisions.

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## 2. TEXT CONVENTIONS

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In this document, the following text conventions are used:

- Text that is in **bold** represents the following elements:
  - ♦ The names of screen fields, tabs, buttons, and menu options. For example, **Affiliations** (tab), **File** (menu), **OK** (button).
  - ♦ File names, script names, and folder and directory names. For example, **pracval.exe**, **c:\Program Files**
  - ♦ Prompts in user input. For example, **sql>**`select length (...`
  - ♦ Commands and command syntax. For example, “The UNIX **ps -ef | grep orbixd** command.”
- Text that is *italicized* represents specific field values or literals such as passwords.
- Quotation marks are used to identify messages.
- Sample code is in fixed width font (Courier). For example, `select length ( ``
- Text that is [blue and underlined](#) represents a hyperlink to another section of the current document or to another document.



### 3. SUMMARY

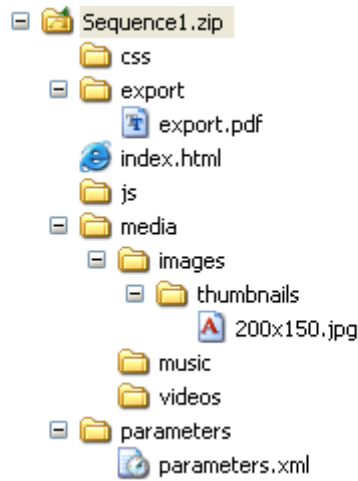
Sequences provided by Agency should respect the following recommendations:

<b>Browser Support (HTML5)</b>	Safari 5.1 and above (iPad) For MI Touch (Rep Viewer)
	Internet Explorer ModernUI (Windows8) For MI Touch (Rep Viewer)
	Chrome (Windows) For MI Online (HomeOffice Preview)
	Firefox 11.0 and above (Windows) For MI Online (HomeOffice Preview)
	Internet Explorer 9.0 and above (Windows) For MI Online (HomeOffice Preview)
<b>Format</b>	<b>Ipad Resolution: 1024x768</b>
	Landscape orientation is <b>recommended</b> Portrait orientation is supported (90 degree with the clock rotation of the content only)
<b>Files Size Recommendation</b>	It is recommended not to exceed 5MB of images per sequence due to performance issues on iPad
<b>Thumbnail</b>	Format: jpg
	Resolution: 200x150
<b>Package</b>	Each Sequence must be provided in one zip file which will contain all of the files required to display the HTML page as defined in the “How to Structure the Content” section
	Sequence must be independent
	File paths must be relative
	Thumbnail must be in the folder <b>media\images\thumbnails</b> and must be named <b>200x150.jpg</b>
	Export PDF File for email must be in the folder <b>export</b> and must be named <b>export.pdf</b>
	Parameter file must be in the folder <b>parameters</b> and must be named <b>parameters.xml</b>
	External link must be opened in a new window. External Link tag must contain <i>target=</i> ” <i>blank</i> ” and URL parameter <i>openInSafari=true</i>
	Files extension must be part of MIME Type Supported

## 4. HOW TO STRUCTURE THE CONTENT

---

Sequence must be distributed in a zip archive. The architecture should match the following:



### 4.1 Root Folder

This folder should contain the sequence's HTML files and the folders **css**, **js**, **media**, etc. First html file must be **index.html** (mandatory).

### 4.2 Css Folder

This folder contains all style sheet files (**recommended**).

### 4.3 Export Folder

This folder contains the PDF file that will be used to send presentation by email (**optional**). If provided by the agency, name of the file must be **export.pdf**.

**Please note that the file cannot be secured by password, and access permission should allow changes to the PDF file content.**

### 4.5 Js Folder

Contains all JavaScript files (**recommended**).

### 4.6 Media Folder

Contains all media files. They are grouped by type.

#### 4.6.1 Images Folder

Contains all the image files in the sequence (**recommended**) and the subfolder **thumbnails** (**mandatory**).

#### **4.6.2 Thumbnails Folder**

Contains the thumbnails. Name of the file must be **200x150.jpg (mandatory)**.

#### **4.6.3 Music Folder**

Contains all the music files in the sequence (**recommended**).

#### **4.6.4 Videos Folder**

Contains all the video files in the sequence (**recommended**).

#### **4.7 Parameters Folder**

Contains xml file for the sequence parameters (**optional**).

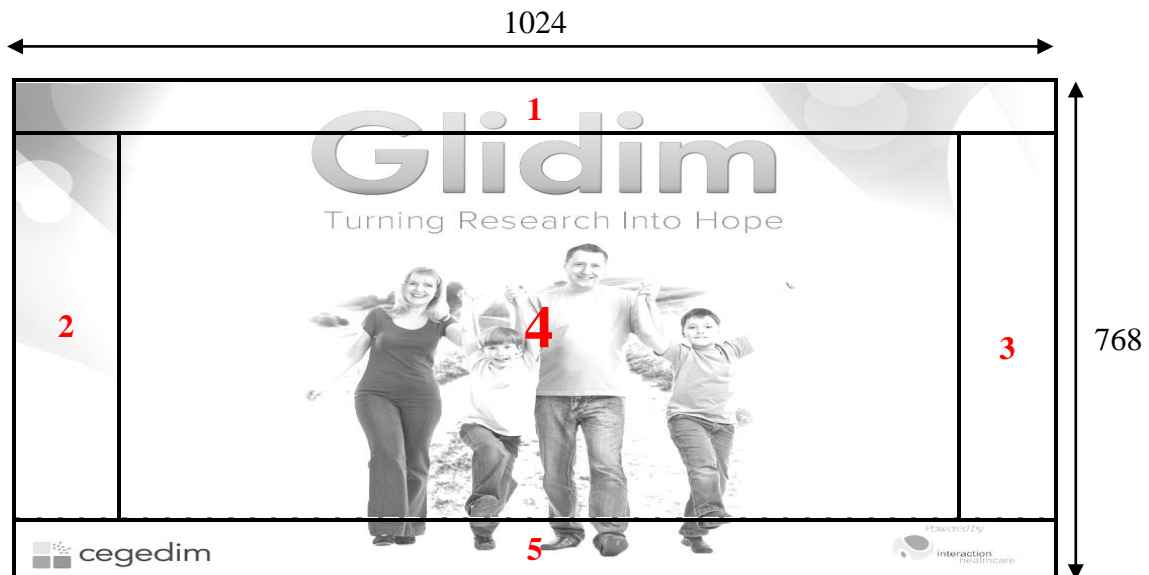
If provided by the agency, name of the file must be **parameters.xml**

## 5. HOW TO CUSTOMIZE GESTURES

When a presentation is run on an iPad, sequences are played in full screen mode. To allow users to interact with the viewer, several areas are delimited with specific gesture interpretations. Each area owns its rules, which are defined in the [Areas' Detail](#) section.

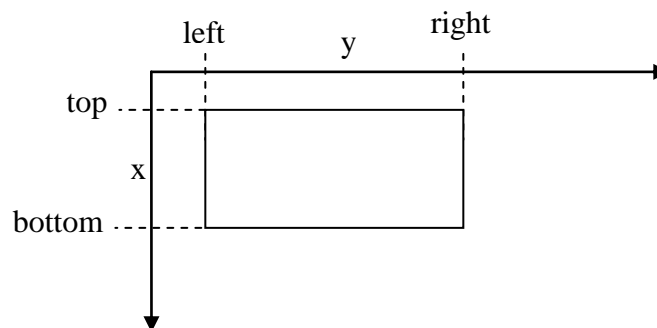
### 5.1 Areas' Organization

There are five areas, or zones, defined as follows:



### 5.2 Areas' Positioning Detail

Each area is defined by its properties: top, bottom, left, right. These properties are defined in pixels as shown:



Here is the detail for each area:

Area	Top	Bottom	Left	Right
1	0	8% Xmax	0	Ymax
2	8% Xmax	92% Xmax	0	10% Ymax
3	8% Xmax	92% Xmax	90% Ymax	Ymax
4	8% Xmax	92% Xmax	10% Ymax	90% Ymax
5	92% Xmax	Xmax	0	Ymax

## 5.3 Areas' Detail

### 5.3.1 Zone 1

If a tap action is performed in this area, the header bar is shown above the sequence content. Every action made in another section hides this bar except in the footer tab zone, if visible.



#### 5.3.1.1 Recommendation

It is strongly recommended not to put interactive elements in this area.

#### 5.3.1.2 Exception

On a tap action:

- If an interactive element (refer to [Interactive HTML Tags](#)) is present in this area, the element action is performed

Example : <button>, <a>, <map>

- If a non-interactive element is present in this area, the header bar is shown

Example : <div>

- If a non-interactive element is present in this area and it has the property *data-prevent-tap* set to *true*, the element action is performed

Example : <div data-prevent-tap="true" >

Every interactive element in this area must be visually well-delineated and must not take more than 30% of the area.

### 5.3.2 Zone 2 and 3

If a tap action is performed in these areas, feedback recording action (Positive, Negative, None) is performed by the viewer.

#### **5.3.2.1 Recommendation**

No interactive element should be placed in Zone 2 or 3. If this is the case and without specific configuration (see below), it cannot perform the actions.

#### **5.3.2.2 Exception**

During sequence definition, admin user will be able to deactivate feedback for a specific sequence to allow usage of interactive elements in these zones 2 and 3.

### **5.3.3 Zone 4**

If a left swipe action is done in Zone 4, viewer navigates to next sequence.  
In the same way, if a right swipe is performed, the previous slide is shown.

#### **5.3.3.1 Recommendation**

If a sequence normally needs left/right swipe action, these should be replaced by next/previous action buttons.

Pinch and double-tap actions are reserved by the viewer to take control of the zoom.

#### **5.3.3.2 Interdiction**

Pinching and double-tap actions must not be used by the sequence content page.

#### **5.3.3.3 Exception**

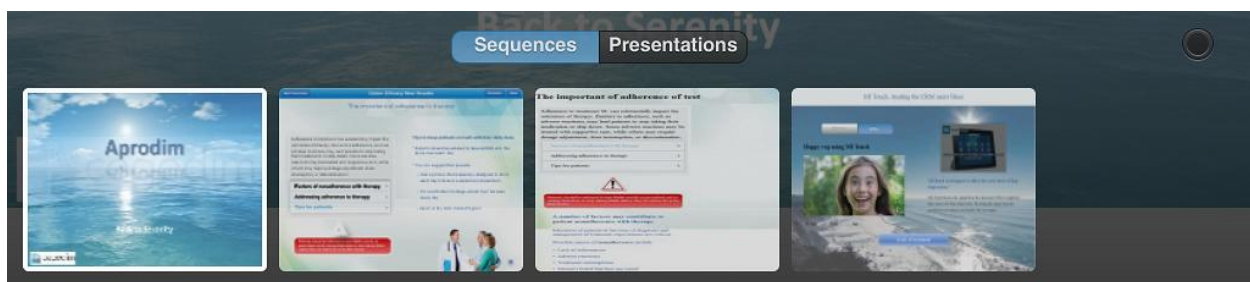
If a sequence is composed of several slides, you can prevent the swipe left/right action. To do this, the body HTML element must have the property *data-prevent-left-swipe* and/or *data-prevent-right-swipe* set to *true*. (Refer to [Prevent Default Behavior](#) section for usage.)

Default viewer behavior for swipe left/right action must be restored when last/first slide is shown to let the viewer jump to next/previous sequence. (Refer to [Restore Default Behavior](#) section for usage.)

**ATTENTION:** If the default behavior is not restored, the integrity of the viewer is compromised.

### **5.3.4 Zone 5**

If a tap action is performed in Zone 5, the footer bar will be shown above the sequence content. Every action done in another section hides this bar.



#### 5.3.4.1 Recommendation

It is strongly recommended not to put interactive elements in this area.

#### 5.3.4.2 Exception

On a tap action:

- If an interactive element (refer to [Interactive HTML Tags](#)) is present in this area, the element action is performed

Example : <button>, <a>

- If a non-interactive element is present in this area, the footer bar is shown

Example : <div>

- If a non-interactive element is present in this area and it has the property *data-prevent-tap* set to *true*, the element action is performed

Example : <div data-prevent-tap="true" >

Every interactive element in this area must be visually well-delineated and must not take more than 30% of the area.

### 5.3.5 Summary

Area	Gestures	Default Behavior	Override Allowed
1	Tap	Show header bar	True
2	Tap	Hidden action	True*
3	Tap	Hidden action	True*
4	Swipe Left	Next sequence	True**
4	Swipe Right	Previous Sequence	True**
4	Double Tap	Zoom in/out	False
4	Pinching	Zoom in/out	False
5	Tap	Show footer bar	True

\* Conditionally (refer to Zone 2 & 3 sections)

\*\* Conditionally (refer to [Zone 4](#) section)

### 5.3.6 Interactive HTML Tags

The following list contains all the HTML elements that the viewer considers interactive by default:

- A
- AUDIO
- BUTTON
- INPUT
- MAP
- OPTGROUP
- OPTION
- SELECT
- VIDEO

## 5.4 Prevent Default Behavior

Default actions can be overridden to perform specific sequence actions. To prevent the viewer from performing default actions on an HTML element, *data-\** property must be part of the element's attributes.

Then every default action handling is revoked on this element and on its children.

### 5.4.1 Usage

```
<body data-prevent-left-swipe="true">  
...  
</body>
```

Or

```
<div data-prevent-tap="true">  
...  
</div>
```

Etc.

### 5.4.2 Restore Default Behavior

To restore the default behavior, the *data-\** value must be set to "*false*".

#### 5.4.2.1 JavaScript example

```
document.getElementById("idElement").dataset.preventTap = "false";  
or  
document.getElementById("idElement").dataset.preventLeftSwipe = "false";
```



---

**5.4.3 Prevent Event List**

<b>Gestures</b>	<b>Prevent</b>	<b>Description</b>
Tap	data-prevent-tap	Override Tap
Swipe Left	data-prevent-left-swipe	Override Left Swipe
Swipe Right	data-prevent-right-swipe	Override Right Swipe

## 6. HOW TO INSERT MI DATA IN THE CONTENT

The sequence must be able to adapt itself to the attendee or attendees. A json structure is provided to the viewer and the sequence must implement a specific span HTML element that will be interpreted by the viewer while loading it.

### 6.1 MI Data Structure

All MI Data are in a json structure accessible with `window.parent.context`

					Description
context					
	presentations				<b>Array</b> to acces presentations
		id			Primary key of the presentation (Cegedim internal id)
		name			Name of the presentation (defined by Admin user)
		products			Product Name linked to the presentation (defined by Admin user)
		code			Code of the presentation (Health Authority Approval Code – defined by approval user)
		externalid			Client Identifier of the presentation (can be defined by admin user)
		thumbnail			Path of the thumbnail of the presentation
		seen			Indicates if the presentation has been seen or not during this session (updated by viewer)
		sequences			<b>Array</b> to access sequences
			id		Primary key of the sequence (Cegedim internal id)
			name		Name of the sequence (defined by Admin user)

					Description
			externalid		Client Identifier of the sequence (defined in Parameters.xml)
			thumbnail		Path of the thumbnail of the sequence
			product_id		Product Id linked to the sequence (defined by Admin user)
			message_id		Product Message Id linked to the sequence (defined by Admin user)
			seen		Indicates if the sequence has been seen or not during this presentation (updated by viewer)
			feedback		Feedback of the sequence (updated by viewer)
			timeElapsed		Time elapsed on the sequence (updated by viewer)
			data		<b>Array</b> to access fields stored with addData
				id	Id of the data
				value	Value of the data
			actions		<b>Array</b> to access fields stored with addAction
				action	Type of the action
				detailed_time	Detailed time of the action
				from_time	Start Date Time of the action
				to_time	End Date Time of the action
				page	Page ID of the action
				message_id	Product Message Id linked to the page (defined by Admin user)
				slide_order	Slide order of the action
				category	Category of the action
				reaction_type	Feedback of the action

					Description
				questions_raised	Question raised by the action
				extra_1	Extra Field 1 of the action
				extra_2	Extra Field 2 of the action
				extra_3	Extra Field 3 of the action
				extra_4	Extra Field 4 of the action
				extra_5	Extra Field 5 of the action
			assets		<b>Array</b> to access fields stored with addAsset
				description	Description of the asset
				start_date_time	Start Date Time of the asset
				duration	Duration of the asset
				external_id	External Id of the asset
			pages		<b>Array</b> to access pages
				page_id	Page Id
				message_id	Product Message Id linked to the page (defined by Admin user)
	customers				<b>Array</b> to access customers
		id			Primary key of the customer (Cegedim internal id)
		lastname			Last Name of the customer
		firstname			First Name of the customer
		customertype			Type of the customer (code)
		specialty			Specialty of the customer (code)
		onekeyid			OneKey Identifier for customer
		externalid			Client Identifier of the customer

					Description
		email			Email of the customer
		segments			Segments <b>Array</b> (ratings)
			segmentid		Primary key of the segment
			name		Name of the segment
			valuemin		Minimum Value of the segment
			valuemax		Maximum Value of the segment
			externalid		Client Identifier of the segment
		addresses			Addresses <b>Array</b>
			addressid		Primary key of the address
			line1		First line of the address
			city		City of the address
			state		State of the address
			postalarea		Postal area (zip code) of the address
			externalid		Client Identifier of the address

## 6.2 Access Current Presentation

To access the current presentation index from a sequence, use:

- `window.parent.getCurrentPresentation()`

## 6.3 Access Current Sequence

To access the current sequence index from a sequence, use:

- `window.parent.getCurrentSequence()`

## 6.4 Access Sequence with externalid

To access a sequence of the presentation with the externalid, use:

- `window.parent.getIndexSequence(externalId)`

Returns the index of the sequence with the externalid provided. Returns -1 if not found

## 6.5 Specific `<span>` Element

To make the viewer load a data element, the sequence must contain a span element whose class is *template*. Furthermore, it must have a *data-template* attribute where the template pattern is specified with the language defined by jQuery template framework.

(<https://github.com/BorisMoore/jquery-tmpl>).

### 6.5.1 Usage

```
<span class='template' data-template='template'></span>
```

## 6.6 Dynamic Fields Examples

### 6.6.1 Print First User's Information

#### 6.6.1.1 Sequence code:

```
<span class='template' data-template='  
  <ul>  
    <li><i>${context.customers[0].firstname}</i> ${context.customers[0].name}</li>  
  </ul>  
'>  
</span>
```

#### 6.6.1.2 Interpreted code:

```
<ul>  
  <li><i>GORVEL</i> Gael</li>  
</ul>
```

### 6.6.2 Make a List of All Users

This is useful in case the presentation is shown to several attendees.

#### 6.6.2.1 Sequence code:

```
<span class='template' data-template='  
  <ul>  
    {{each context.customers}}<li><i>${firstname}</i> ${lastname}</li>{{/each}}  
  </ul>  
'></span>
```

#### 6.6.2.2 Interpreted code:

```
<ul>  
  <li><i>MORELLI</i> Nicolas</li>  
  <li><i>GORVEL</i> Gael</li>  
  <li><i>BOURRAS</i> Thomas</li>  
</ul>
```

---

## 7. HOW TO UPDATE MI DATA

---

### 7.1 Function “addAction”

To add action, use:

- `window.parent.addAction (action, detailed_time, from_time, to_time, product_id, page,message_id,slide_order,category,reaction_type,questions_raised,extra_1,extra_2,extra_3,extra_4,extra_5)`  
action: string (200): Description of the action  
detailed\_time: number: Time spent on the action  
from\_time: number: Start time of the action  
to\_time: number: End time of the action  
product\_id: number: Id of the product of the sequence  
page: string (200): Name of the page  
message\_id: number: Id of the product message of the sequence  
slide\_order: number: Order of presenting the sequence  
category: string (4): Category of the sequence  
reaction\_type: string (4): Feedback of the sequence  
questions\_raised: string(4): Question Raised  
extra\_1: string (200): Extra 1  
extra\_2: string (200): Extra 2  
extra\_3: string (200): Extra 3  
extra\_4: string (200): Extra 4  
extra\_5: string (200): Extra 5

This will update the event\_presentation\_detail table in the MI Database.

#### 7.1.1 Example

```
<input type="text" id="183" onchange="window.parent.addAction('ENTER TEXT',  
Date.Now(), '4', '183')"/>
```

### 7.2 Function “addAsset”

Object dependent on Action (action = MESS).

To add asset, use:

- `window.parent.addAsset(description, start_date_time, duration, external_id)`  
description: string (200): Description of the asset  
start\_date\_time: datetime : Start time of the asset  
duration: number: Duration of the asset  
external\_id: string(200) : External Id of the asset

This will update the event\_presentation\_asset table in the MI Database.

## 7.2.1 Example

Basic example:

```
<input type="text" id="183" onchange="window.parent.addAsset('ENTER TEXT', Date.now(), '4', '183')"/>
```

How to track button clicks. In the below example we log info when user click on “Before” and “After” buttons:

```
<script>
var start = Date.now();
function OnBeforeClick(){
var end = Date.now();
var elapsed = parseInt((end - start) / 1000);
window.parent.addAsset('BEFORE', start, elapsed, '1');
start = Date.now();
}

function OnAfterClick(){
var end = Date.now();
var elapsed = parseInt((end - start) / 1000);
window.parent.addAsset('AFTER', Date.now(), elapsed, '2');
start = Date.now();
}
</script>
```

## 7.3 Function “updateFeedback”

To update sequence feedback, use:

- window.parent.updateFeedback(type)  
type: “POSITIVE”, “NONE”, “NEGATIVE”, null

### 7.3.1 Example

```
<input type="text" id="183" onchange="window.parent.updateFeedback('POSITIVE')"/>
```

## 7.4 Pages

A sequence can contain several pages. During the creation of the sequence, the user will be able to map each page with a key message. In such case, tracking of duration, feedback and key message will be done at page level.

### 7.4.1 Pages Definition

Pages definition is a list of pages defined in the sequence.

The pages are defined as a child of the sequence node in the parameter file (parameters.xml)

#### 7.4.1.1 Example

```
<Sequence Id="AGENCY-001" xmlns="urn:param-schema">
  <Pages>
    <Page pageid="AGENCY-PAGE-001" />
    <Page pageid="AGENCY-PAGE-002" />
    <Page pageid="AGENCY-PAGE-003" />
  </Pages>
</Sequence>
```



</Pages>  
</Sequence>

### 7.4.2 Function “onEnterPage”

To start tracking on a page, use

- `window.parent.onEnterPage(pageid)`  
pageid: string (200)

#### 7.4.2.1 Example

```
window.parent.onEnterPage('AGENCY-PAGE-001');
```

### 7.4.3 Function “onLeavePage”

To stop tracking on a page, use

- `window.parent.onLeavePage()`

`onLeavePage` function is automatically called if :

- `onEnterPage` is called on another page
- user navigates to another sequence or presentation
- user leaves the presentation

#### 7.4.3.1 Example

```
window.parent.onLeavePage();
```

## 7.5 CallDialog

### 7.5.1 CallDialog Definition

Call dialog definition is a list of questions + responses defined in the sequence.

The call dialog is defined as a child of the sequence node in the parameter file (parameters.xml)

Question node has the following attributes :

- id: id of the tag in html file (string)
- text: text of the question (string)
- type: type of the question (string)
  - ♦ DROP: Dropdown
  - ♦ MSG: Message (no answer)
  - ♦ TEXT: Free Text
  - ♦ CHBX: CheckBox
  - ♦ NUM: Numerical
  - ♦ RAD: Radio Button

Response node has the following attributes:

- id: id of the tag in html file (string)
- text: text of the question (string)
- goto: id of the next question (string)

*goto functionality will be used only in the edition of the calldialog in the postcall page*

### 7.5.1.1 Example

```
<Sequence xmlns="urn:param-schema">
<CallDialog>
  <Questions>
    <Question id="Q181" text="Do you like my product?" type="DROP">
      <Responses>
        <Response id="R201" text="Yes" />
        <Response id="R202" text="No" />
      </Responses>
    </Question>
    <Question id="Q182" text="Do you like my product?" type="MSG" />
    <Question id="Q183" text="Do you like my product?" type="TEXT" />
    <Question id="Q184" text="Do you like my product?" type="CHBX" >
      <Responses>
        <Response id="R203" text="Yes" goto="Q185" />
        <Response id="R204" text="No" goto="Q186" />
      </Responses>
    </Question>
    <Question id="Q185" text="Do you like my product?" type="NUM" />
    <Question id="Q186" text="Do you like my product?" type="RAD">
      <Responses>
        <Response id="R206" text="Yes" />
        <Response id="R207" text="No" />
      </Responses>
    </Question>
  </Questions>
</CallDialog>
</Sequence>
```

## 7.5.2 CallDialog Answers

To send the answer of the calldialog to the viewer, use :

- window.parent.addDataFromElement(element)  
element has to contain element.id and element.value
- window.parent.addData(id, value)  
id: identifier of the question or identifier of the response (string)  
value: identifier of the response or free text (string)

### 7.5.2.1 Example

The html file must look as follows:

```
<form>
```

```

<label>DROP : Do you like Glidim?</label>
<select id="Q181" onchange="
window.parent.addDataFromElement(this[this.selectedIndex])">
  <option id="R201" value="R201">Yes</option>
  <option id="R202" value="R202">No</option>
</select>
<br />
<label id="Q182">MSG : Do you like Glidim?</label>
<br />
<label>TEXT : Do you like Glidim?</label>
<input type="text" id="Q183" onchange="window.parent.addData(this.id,
this.value)"/>
<br />
<label id="Q184">CHBX : Do you like Glidim?</label>
<input type="checkbox" id="R203" value="R203" onclick="
window.parent.addDataFromElement(this)">Yes</input>
<input type="checkbox" id="R204" value="R204" onclick="
window.parent.addDataFromElement(this)">No</input>
<br />
<label>NUM : Do you like Glidim?</label>
<input type="text" id="Q185" onchange="window.parent.addDataFromElement(this)"/>
<br />
<label>RAD : Do you like Glidim?</label>
<input type="radio" name="group1" id="R206" value="R206" onclick="window.parent.
addData('Q185','R206')">Yes</input>
<input type="radio" name="group1" id="R207" value="R207" onclick="window.parent.
addData('Q185','R207')">No</input>
</form>

```

---

## 8. HOW TO MANAGE MEMORY

---

During a presentation the sequence can be unloaded. Agency has to manage state of the sequence. That can be done with `saveState` and `loadState` functions. For example when an interactive element has been selected or moved, state object can be used to store the value and retrieve it when we come back to that sequence.

### 8.1 Function “`saveState`”

Function saves state of the sequence

#### 8.1.1 Usage

`window.parent.saveState (window, state);`  
`window` : window object of `index.html` of the sequence  
`state` : object which contains the state of the sequence

#### 8.1.2 Example

```
window.parent.saveState(window, state);
```

### 8.2 Function “`loadState`”

Function loads state of the sequence

#### 8.2.1 Usage

`window.parent.loadState (window);`  
`window` : window object of `index.html` of the sequence

#### 8.2.2 Example

```
var state = window.parent.loadState(window);
```

### 8.3 Event “`memoryWarning`”

Occurs when `memoryWarning` is received. Sequence should free as much memory as it can.

#### 8.3.1 Example

```
window.parent.bind(this, 'memoryWarning', onmemoryWarning);
```

## 9. HOW TO MANAGE PDF

### 9.1 PDF Sequence

PDF files can be loaded as .pdf file without zip structure.

The thumbnail will be automatically generated as in the below example:



### 9.2 Function “getPDF”

Function returns browser adapted html node in order to get an scroll-enabled embedded PDF

#### 9.2.1 Usage

window.parent.PDFHelper.getPDF (pdfPath, window);

pdfPath : relative pdf path from index.html of the sequence . Cannot start with «/»

window : window object of index.html of the sequence

#### 9.2.2 Example

```
Html:
<div id="pdfcontainer"
style="position:absolute;top:768px;left:0px;width:1024px;height:768px;overflow:auto;background-color:rgba(166,166,166,0.8);">
</div>
```

```
Javascript:
if(document.getElementById("pdfcontainer").children.length == 0)
{
    // get an scroll-enabled embedded PDF
    var pdf = window.parent.PDFHelper.getPDF('media/pdf/study.pdf', window);

    //Set desired size (same size than old iframe tag)
    pdf.style.width = "500px";
    pdf.style.height = "768px";

    //Add it to the pdf container div
    document.getElementById("pdfcontainer").appendChild(pdf);

    //Set alignment
    document.getElementById("pdfcontainer").style.textAlign="center";
}
```

---

## 9.3 Function “OpenPDF” (Only for MITouch on iOS)

Function opens PDF in a native fullscreen window  
Available in MI9 SU5

### 9.3.1 Usage

`window.parent.PDFHelper.OpenPDF(pdfPath, window, showSendMailAndPerPageNavigation);`  
`pdfPath` : relative pdf path from `index.html` of the sequence . Cannot start with «/»  
`window` : window object of `index.html` of the sequence  
`showSendMailAndPerPageNavigation` : show or hide send mail button and navigation per page in PDF screen

### 9.3.2 Example

```
if (window.parent.PDFHelper.OpenPDF)
    window.parent.PDFHelper.OpenPDF('media/pdf/study.pdf', window, true);
else
    window.open('media/pdf/study.pdf');
```

## 9.4 Event “pdfclosed” (Only for MITouch on iOS)

Occurs when the user closes PDF document opened with OpenPDF function  
Available in MI9 SU5

### 9.4.1 Example

```
window.parent.bind(this, 'pdfclosed', onpdfclosed);
```

---

## 10. MISCELLANEOUS

---

### 10.1 Additional Attributes of Parameter File

This file contains parameters attached to the sequence.

It also contains the definition of the call dialog (list of questions + responses defined in the sequence).

**Be careful! XML tags are case sensitive. The tag `<sequence>` is different from the tag `<Sequence>`**

#### 10.1.1 Namespace

We provide an xsd file (**parameters.xsd**) in the Appendix to check the xml schema of the parameter file. In order to validate the parameters.xml Sequence node has to be declared in the correct namespace

```
<Sequence xmlns="urn:param-schema">
...
</Sequence>
```

#### 10.1.2 Sequence Id

The Id of the sequence is defined as an attribute of the sequence Id.

This Id must be unique. It allows you to manage the link between sequences.

As several agencies can deliver sequences for same client we recommend to add an agency prefix code.

##### 10.1.2.1 Example

```
<Sequence Id="AGENCY-001" xmlns="urn:param-schema">
...
</Sequence>
```

#### 10.1.3 Number of Slides

The number of slides is defined as an attribute of the sequence NumberOfSlides.

##### 10.1.3.1 Example

```
<Sequence NumberOfSlides="3" xmlns="urn:param-schema">
...
</Sequence>
```

#### 10.1.4 Orientation

The orientation is defined as an attribute of the sequence Orientation.

It can be *Portrait* or *Landscape*. By default, sequence is Landscape.

##### 10.1.4.1 Example

```
<Sequence Orientation="Landscape" xmlns="urn:param-schema">
...
```

</Sequence>

### 10.1.5 Links

The links between sequences use in the sequence are defined as the node Links.

This node contains all link nodes with the attribute SequenceId.

During the creation of a presentation, a warning will be displayed if the presentation doesn't contain all linked sequences.

#### 10.1.5.1 Example

```
<Sequence Id="AGENCY-001" xmlns="urn:param-schema">
  <Links>
    <Link SequenceId="AGENCY-002" />
    <Link SequenceId="AGENCY-003" />
    <Link SequenceId="AGENCY-004" />
  </Links>
</Sequence>
```

## 10.2 Links

### 10.2.1 External Link

An External Link must be opened in a new window. The External Link tag must contain *target="\_blank"* and URL parameter *openInSafari=true*

#### 10.2.1.1 Example

```
<a href="http://google.com?openInSafari=true" target="_blank">google</a>
```

### 10.2.2 Link between Sequences

To define a link between sequences, use :

- `window.parent.navigateToSequence(id)`  
id : id of the sequence
- `window.parent.navigateToSequence(id, animation)`  
id : id of the sequence  
animation : "noanimation" to navigate without animation

#### 10.2.2.1 Example

```
window.parent.navigateToSequence('AGENCY-002');
window.parent.navigateToSequence('AGENCY-002', 'noanimation');
```

### 10.2.3 Internal Link

An internal link is a link to a document delivered in the zip sequence (for example pdf file).

A function must be developed to go back to the sequence after the document has been displayed.



---

## 10.3 Events

### 10.3.1 Event “viewappearing”

Occurs when the view is appearing

#### 10.3.1.1 Example

```
window.parent.bind(this, 'viewappearing', onviewappearing);
```

### 10.3.2 Event “viewdisappearing”

Occurs when the view is disappearing

#### 10.3.2.1 Example

```
window.parent.bind(this, 'viewdisappearing', onviewdisappearing);
```

### 10.3.3 Event “viewappeared”

Occurs when the view has appeared

#### 10.3.3.1 Example

```
window.parent.bind(this, 'viewappeared', onviewappeared);
```

### 10.3.4 Event “viewdisappeared”

Occurs when the view has disappeared

#### 10.3.4.1 Example

```
window.parent.bind(this, 'viewdisappeared', onviewdisappeared);
```

### 10.3.5 Event “play”

Occurs when the user clicks on play button

#### 10.3.5.1 Example

```
window.parent.bind(this, 'play', onplay);
```

### 10.3.6 Event “preview”

Occurs when the user clicks on preview button

#### 10.3.6.1 Example

```
window.parent.bind(this, 'preview', onpreview);
```

### 10.3.7 Event “pause”

Occurs when the user clicks on pause button

#### 10.3.7.1 Example

```
window.parent.bind(this, 'pause', onpause);
```

---

### 10.3.8 Event “postcall”

Occurs when the user clicks on postcall button

**Callback function needs to call `window.parent.postcall()` at the end of the function**

Available in MI9 SU6

#### 10.3.8.1 Example

```
window.parent.bind(this, 'postcall', onpostcall);
```

```
function onpostcall() {  
    // here is your code  
    ...  
  
    // postcall function execution  
    window.parent.postcall();  
}
```

## 10.4 Functions

### 10.4.1 Function “cancel”

Function called when user clicks on Cancel Button

#### 10.4.1.1 Example

```
window.parent.cancel();
```

### 10.4.2 Function “postcall”

Function called when user clicks on PostCall Button

#### 10.4.2.1 Example

```
window.parent.postcall();
```

### 10.4.3 Function “sendMail”

Function called when user clicks on Email Button

#### 10.4.3.1 Example

```
window.parent.sendMail();
```

### 10.4.4 Function “getCurrentMode”

Function returns current viewer mode : 1 (PlayMode), 2 (PreviewMode), 3 (PauseMode)

#### 10.4.4.1 Example

```
window.parent.getCurrentMode();
```

### 10.4.5 Function “goNextSequence”

Function navigates to next sequence

#### 10.4.5.1 Example

```
window.parent.goNextSequence();
```

### 10.4.6 Function “goPreviousSequence”

Function navigates to previous sequence

#### 10.4.6.1 Example

```
window.parent.goPreviousSequence();
```

---

## 11. HOW TO MANAGE RETINA RESOLUTION

---

The term **Retina** mentioned in the title of this post is a friendly word used by Apple to lay emphasis on the double density pixels screen of its devices

CSS pixel is an abstract unit used by the browsers to draw images and other content on a web page. CSS pixels are DIPs which means they are device independent pixels. They readjust themselves according to the pixel density of the screen they are rendered in.

For more details : <http://www.sitepoint.com/css-techniques-for-retina-displays/>

### 11.1 Example

#### 11.1.1 css

```
#main {
    width: 1024px;
    height: 768px;
    margin: 0 0;
    overflow: hidden;
}
/* for low resolution display */
.main {
    background-image: url(../media/images/lowreslogo.jpg);
    background-size: 1024px 768px;
}
/* for high resolution display */
@media only screen and (min--moz-device-pixel-ratio: 2),
only screen and (-o-min-device-pixel-ratio: 2/1),
only screen and (-webkit-min-device-pixel-ratio: 2),
only screen and (min-device-pixel-ratio: 2) {
    .main {
        background: url(../media/images/highreslogo.jpg) no-repeat;
        background-size: 1024px 768px;
    }
}
```

#### 11.1.2 html

```
<!DOCTYPE html>
<html>
    <head>
        <meta charset="utf-8">
        <meta name="apple-mobile-web-app-capable" content="yes">
        <meta name="viewport" content="user-scalable=no, width=device-width,
initial-scale=1, maximum-scale=1">
        <link rel="stylesheet" href="css/main.css">
    </head>
    <body>
        <div id="main" class="main" />
    </body>
</html>
```

---

## 12. HOW TO TEST AND DEBUG

---

### 12.1 Unit Test by Sequence

Communication Agency should always check for issues on all supported browsers before deployment to a client.

**A sequence must be tested on the environment used by the Home Office for Preview.**

It can be either :

- Chrome (Windows)
- Firefox 11.0 and above (Windows)
- Internet Explorer 9.0 and above (Windows)

**A sequence must be tested on the environment used by the Rep**

It can be either :

- Safari (iPad)
- Internet Explorer ModernUI (Windows 8 Tablet)

### 12.2 Final Test by Presentation

**Final testing must always be performed within MI Touch application.**

**For that purpose it is recommended that Agency joins Cegedim Certification Program. A dedicated test MI environment will then be provided for testing and certification purposes**

### 12.3 XSD Validator

You can use the tool to validate your parameters.xml file

<http://www.utilities-online.info/xsdvalidation/#.UIKxVdJ7Ia8>

### 12.4 Debugging Web Content on iOS

<https://developer.apple.com/library/ios/documentation/AppleApplications/Reference/SafariWebContent/DebuggingSafariiPhoneContent/DebuggingSafariiPhoneContent.html>

## 13. APPENDIX

### 13.1 Parameters.xsd

#### 13.1.1 Content

```
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns="urn:param-schema"
  elementFormDefault="qualified"
  targetNamespace="urn:param-schema"
  xmlns:tns="urn:param-schema">

  <xsd:element name="Sequence">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:element ref="CallDialog" minOccurs="0"/>
        <xsd:element ref="Links" minOccurs="0"/>
        <xsd:element ref="Pages" minOccurs="0"/>
      </xsd:sequence>
      <xsd:attribute name="NumberOfSlides" type="xsd:long"/>
      <xsd:attribute name="Orientation" type="OrientationType"/>
      <xsd:attribute name="Id" />
    </xsd:complexType>
  </xsd:element>
  <xsd:element name="CallDialog">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:element ref="Questions"/>
      </xsd:sequence>
    </xsd:complexType>
  </xsd:element>
  <xsd:element name="Questions">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:element ref="Question" minOccurs="1"
maxOccurs="unbounded"/>
      </xsd:sequence>
    </xsd:complexType>
  </xsd:element>
  <xsd:element name="Question">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:element ref="Responses" minOccurs="0"/>
      </xsd:sequence>
      <xsd:attribute name="id" type="xsd:string" use="required"/>
      <xsd:attribute name="text" type="xsd:string" use="required"/>
      <xsd:attribute name="type" type="QuestionType" use="required"/>
    </xsd:complexType>
  </xsd:element>
  <xsd:element name="Responses">
    <xsd:complexType>
      <xsd:sequence>
```

```

        <xsd:element ref="Response" minOccurs="1"
maxOccurs="unbounded"/>
    </xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="Response">
    <xsd:complexType>
        <xsd:attribute name="id" type="xsd:string" use="required"/>
        <xsd:attribute name="text" type="xsd:string" use="required"/>
        <xsd:attribute name="goto" type="xsd:string"/>
    </xsd:complexType>
</xsd:element>
<xsd:element name="Links">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element ref="Link" minOccurs="1" maxOccurs="unbounded"/>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="Link">
    <xsd:complexType>
        <xsd:attribute name="SequenceId" use="required"/>
    </xsd:complexType>
</xsd:element>
<xsd:element name="Pages">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element ref="Page" minOccurs="1" maxOccurs="unbounded"/>
        </xsd:sequence>
    </xsd:complexType>
    <xsd:unique name="PageIDMustBeUnique">
        <xsd:selector xpath="tns:Page"/>
        <xsd:field xpath="@pageid"/>
    </xsd:unique>
</xsd:element>
<xsd:element name="Page">
    <xsd:complexType>
        <xsd:attribute name="pageid" use="required"/>
    </xsd:complexType>
</xsd:element>
<xsd:simpleType name="OrientationType">
    <xsd:restriction base="xsd:token">
        <xsd:enumeration value="Landscape"/>
        <xsd:enumeration value="Portrait"/>
    </xsd:restriction>
</xsd:simpleType>
<xsd:simpleType name="QuestionType">
    <xsd:restriction base="xsd:token">
        <xsd:enumeration value="DROP"/>
        <xsd:enumeration value="MSG"/>
        <xsd:enumeration value="TEXT"/>
        <xsd:enumeration value="CHBX"/>
        <xsd:enumeration value="NUM"/>
        <xsd:enumeration value="RAD"/>
    </xsd:restriction>
</xsd:simpleType>

```

---

</xsd:schema>

### 13.1.2 Attached File



parameters.xsd



## 13.2 Parameters.xml

### 13.2.1 Content

```
<?xml version="1.0"?>
<Sequence Id="AGENCY-0001" NumberOfSlides="3" Orientation="Landscape" xmlns="urn:param-
schema">
  <CallDialog>
    <Questions>
      <Question id="Q181" text="Do you like my product?" type="DROP">
        <Responses>
          <Response id="R201" text="Yes" />
          <Response id="R202" text="No" />
        </Responses>
      </Question>
      <Question id="Q182" text="Do you like my product?" type="MSG" />
      <Question id="Q183" text="Do you like my product?" type="TEXT" />
      <Question id="Q184" text="Do you like my product?" type="CHBX" >
        <Responses>
          <Response id="R203" text="Yes" goto="Q185" />
          <Response id="R204" text="No" goto="Q186" />
        </Responses>
      </Question>
      <Question id="Q185" text="Do you like my product?" type="NUM" />
      <Question id="Q186" text="Do you like my product?" type="RAD">
        <Responses>
          <Response id="R206" text="Yes" />
          <Response id="R207" text="No" />
        </Responses>
      </Question>
    </Questions>
  </CallDialog>
  <Links>
    <Link SequenceId="AGENCY-0002" />
    <Link SequenceId="AGENCY-0003" />
    <Link SequenceId="AGENCY-0004" />
  </Links>
  <Pages>
    <Page pageid="PAGEID-0001" />
    <Page pageid="PAGEID-0002" />
    <Page pageid="PAGEID-0003" />
  </Pages>
</Sequence>
```

### 13.2.2 Attached File



parameters.xml

### 13.3 Ipad Multimedia Limitations

Please note that some multimedia limitations have been found on the iPad:

- Can't screenshot a video frame
- Can't play sound and video together from different sources
- Can't play multiple sounds or videos at the same time
- Can't control volume or mute using JavaScript
- Can't play sound or video without user interaction
- Multiple HTML5 video elements on the same page cause bugs

## 13.4 MIME Type Supported

Here is the list of MIME Type supported for HO Preview fonctionnality

.323	text/h323	.eml	message/rfc822
.aaf	application/octet-stream	.emz	application/octet-stream
.aca	application/octet-stream	.eot	application/octet-stream
.accdb	application/msaccess	.eps	application/postscript
.accde	application/msaccess	.etx	text/x-setext
.accdt	application/msaccess	.evy	application/envoy
.acx	application/internet-property-stream	.exe	application/octet-stream
.afm	application/octet-stream	.exe.config	text/xml
.ai	application/postscript	.fdf	application/vnd.fdf
.aif	audio/x-aiff	.fif	application/fractals
.aifc	audio/aiff	.fla	application/octet-stream
.aiff	audio/aiff	.flr	x-world/x-vrml
.application	application/x-ms-application	.flv	video/x-flv
.art	image/x-jg	.gif	image/gif
.asd	application/octet-stream	.gtar	application/x-gtar
.asf	video/x-ms-asf	.gz	application/x-gzip
.asi	application/octet-stream	.h	text/plain
.asm	text/plain	.hdf	application/x-hdf
.asr	video/x-ms-asf	.hdml	text/x-hdml
.asx	video/x-ms-asf	.hhc	application/x-oleobject
.atom	application/atom+xml	.hhk	application/octet-stream
.au	audio/basic	.hhp	application/octet-stream
.avi	video/x-msvideo	.hlp	application/winhelp
.axs	application/olescript	.hqx	application/mac-binhex40
.bas	text/plain	.hta	application/hta
.bcpio	application/x-bcpio	.htc	text/x-component
.bin	application/octet-stream	.htm	text/html
.bmp	image/bmp	.html	text/html
.c	text/plain	.htt	text/webviewhtml
.cab	application/octet-stream	.hxt	text/html
.calx	application/vnd.ms-office.calx	.ico	image/x-icon
.cat	application/vnd.ms-pki.seccat	.ics	application/octet-stream
.cdf	application/x-cdf	.ief	image/ief
.chm	application/octet-stream	.iii	application/x-iphone
.class	application/x-java-applet	.inf	application/octet-stream
.clp	application/x-msclip	.ins	application/x-internet-signup
.cmx	image/x-cmx	.ipa	application/octet-stream
.cnf	text/plain	.isp	application/x-internet-signup
.cod	image/cis-cod	.IVF	video/x-ivf
.cpio	application/x-cpio	.jar	application/java-archive
.cpp	text/plain	.java	application/octet-stream
.crd	application/x-mscardfile	.jck	application/liquidmotion
.crl	application/pkix-crl	.jcz	application/liquidmotion
.crt	application/x-x509-ca-cert	.jif	image/jpeg
.csh	application/x-csh	.jpb	application/octet-stream
.css	text/css	.jpe	image/jpeg
.csv	application/octet-stream	.jpeg	image/jpeg
.cur	application/octet-stream	.jpg	image/jpeg
.dcr	application/x-director	.js	application/javascript
.deploy	application/octet-stream	.json	application/json
.der	application/x-x509-ca-cert	.jsx	text/jscrip
.dib	image/bmp	.latex	application/x-latex
.dir	application/x-director	.lit	application/x-ms-reader
.disco	text/xml	.lpk	application/octet-stream
.dll	application/x-msdownload	.lsf	video/x-la-asf
.dll.config	text/xml	.lsx	video/x-la-asf
.dlm	text/dlm	.lzh	application/octet-stream
.doc	application/msword	.m13	application/x-msmediaview
.docm	application/vnd.ms-word.document.macroEnabled.12	.m14	application/x-msmediaview
.docx	application/vnd.openxmlformats-officedocument.wordprocessingml.document	.m3u	audio/mpegurl
.dot	application/msword	.man	application/x-ms-manifest
.dotm	application/vnd.ms-word.template.macroEnabled.12	.manifest	application/x-ms-manifest
.dotx	application/vnd.openxmlformats-officedocument.wordprocessingml.template	.map	text/plain
.dsp	application/octet-stream	.mdb	application/x-msaccess
.dtd	text/xml	.mdp	application/octet-stream
.dvi	application/x-dvi	.me	application/x-troff-me
.dwf	drawing/x-dwf	.mht	message/rfc822
.dwp	application/octet-stream	.mhtml	message/rfc822
.dxr	application/x-director	.mid	audio/mid
.ejs	text/html		

.midi	audio/mid	.pub	application/x-mspublisher
.mix	application/octet-stream	.qt	video/quicktime
.mmf	application/x-smaf	.qtl	application/x-quicktimeplayer
.mno	text/xml	.qxd	application/octet-stream
.mny	application/x-msmoney	.ra	audio/x-pn-realaudio
.mov	video/quicktime	.ram	audio/x-pn-realaudio
.movie	video/x-sgi-movie	.rar	application/octet-stream
.mp2	video/mpeg	.ras	image/x-cmu-raster
.mp3	audio/mpeg	.rf	image/vnd.rn-realflash
.mpa	video/mpeg	.rgb	image/x-rgb
.mpe	video/mpeg	.rm	application/vnd.rn-realmedia
.mpeg	video/mpeg	.rmi	audio/mid
.mpg	video/mpeg	.roff	application/x-troff
.mpp	application/vnd.ms-project	.rpm	audio/x-pn-realaudio-plugin
.mpv2	video/mpeg	.rtf	application/rtf
.ms	application/x-troff-ms	.rtx	text/richtext
.msi	application/octet-stream	.scd	application/x-msschedule
.mso	application/octet-stream	.sct	text/scriptlet
.mvb	application/x-msmediaview	.sea	application/octet-stream
.mvc	application/x-miva-compiled	.setpay	application/set-payment-initiation
.nc	application/x-netcdf	.setreg	application/set-registration-initiation
.nsc	video/x-ms-asf	.sgml	text/sgml
.nws	message/rfc822	.sh	application/x-sh
.ocx	application/octet-stream	.shar	application/x-shar
.oda	application/oda	.sit	application/x-stuffit
.odc	text/x-ms-odc	.sldm	application/vnd.ms-powerpoint.slide.macroEnabled.12
.ods	application/oleobject	.sldx	application/vnd.openxmlformats-officedocument.presentationml.slide
.one	application/onenote	.smd	audio/x-smd
.onea	application/onenote	.smi	application/octet-stream
.onepkg	application/onenote	.smx	audio/x-smd
.onetmp	application/onenote	.smz	audio/x-smd
.onetoc	application/onenote	.snd	audio/basic
.onetoc2	application/onenote	.snp	application/octet-stream
.osdx	application/opensearchdescription+xml	.spc	application/x-pkcs7-certificates
.p10	application/pkcs10	.spl	application/futuresplash
.p12	application/x-pkcs12	.src	application/x-wais-source
.p7b	application/x-pkcs7-certificates	.ssm	application/streamingmedia
.p7c	application/pkcs7-mime	.sst	application/vnd.ms-pki.certstore
.p7m	application/pkcs7-mime	.stl	application/vnd.ms-pki.stl
.p7r	application/x-pkcs7-certreqresp	.sv4cpio	application/x-sv4cpio
.p7s	application/pkcs7-signature	.sv4crc	application/x-sv4crc
.pbm	image/x-portable-bitmap	.svg	image/svg+xml
.pcx	application/octet-stream	.swf	application/x-shockwave-flash
.pcz	application/octet-stream	.t	application/x-troff
.pdf	application/pdf	.tar	application/x-tar
.pfb	application/octet-stream	.tcl	application/x-tcl
.pfm	application/octet-stream	.tex	application/x-tex
.pfx	application/x-pkcs12	.texi	application/x-texinfo
.pgm	image/x-portable-graymap	.texinfo	application/x-texinfo
.pko	application/vnd.ms-pki.pko	.tgz	application/x-compressed
.plist	text/xml	.thmx	application/vnd.ms-officetheme
.pma	application/x-perfmon	.thn	application/octet-stream
.pmc	application/x-perfmon	.tif	image/tiff
.pml	application/x-perfmon	.tiff	image/tiff
.pmr	application/x-perfmon	.toc	application/octet-stream
.pmw	application/x-perfmon	.tr	application/x-troff
.png	image/png	.trm	application/x-msterminal
.pnm	image/x-portable-anymap	.tsv	text/tab-separated-values
.pnz	image/png	.ttf	application/octet-stream
.pot	application/vnd.ms-powerpoint	.txt	text/plain
.potm	application/vnd.ms-powerpoint.template.macroEnabled.12	.u32	application/octet-stream
.potx	application/vnd.openxmlformats-officedocument.presentationml.template	.ultra	text/iuls
.ppam	application/vnd.ms-powerpoint.addin.macroEnabled.12	.ustar	application/x-ustar
.ppm	image/x-portable-pixmap	.vbs	text/vbscript
.pps	application/vnd.ms-powerpoint	.vcf	text/x-vcard
.ppsm	application/vnd.ms-powerpoint.slideshow.macroEnabled.12	.vcs	text/plain
.ppsx	application/vnd.openxmlformats-officedocument.presentationml.slideshow	.vds	application/vnd.ms-visio.viewer
.ppt	application/vnd.ms-powerpoint	.vml	text/xml
.pptm	application/vnd.ms-powerpoint.presentation.macroEnabled.12	.vsd	application/vnd.visio
.pptx	application/vnd.openxmlformats-officedocument.presentationml.presentation	.vst	application/vnd.visio
.prf	application/pics-rules	.vsto	application/x-ms-vsto
.prm	application/octet-stream	.vsw	application/vnd.visio
.prx	application/octet-stream	.vsx	application/vnd.visio
.ps	application/postscript	.vtx	application/vnd.visio
.psd	application/octet-stream	.wav	audio/wav
.psm	application/octet-stream	.wax	audio/x-ms-wax
.psp	application/octet-stream		

.wbmp	image/vnd.wap.wbmp	.xdr	text/plain
.wcm	application/vnd.ms-works	.xht	application/xhtml+xml
.wdb	application/vnd.ms-works	.xhtml	application/xhtml+xml
.wks	application/vnd.ms-works	.xla	application/vnd.ms-excel
.wm	video/x-ms-wm	.xlam	application/vnd.ms-excel.addin.macroEnabled.12
.wma	audio/x-ms-wma	.xlc	application/vnd.ms-excel
.wmd	application/x-ms-wmd	.xlm	application/vnd.ms-excel
.wmf	application/x-msmetafile	.xls	application/vnd.ms-excel
.wml	text/vnd.wap.wml	.xlsb	application/vnd.ms-excel.sheet.binary.macroEnabled.12
.wmlc	application/vnd.wap.wmlc	.xlsm	application/vnd.ms-excel.sheet.macroEnabled.12
.wmls	text/vnd.wap.wmlscript	.xlsx	application/vnd.openxmlformats-officedocument.spreadsheetml.sheet
.wmlsc	application/vnd.wap.wmlscriptc	.xlt	application/vnd.ms-excel
.wmp	video/x-ms-wmp	.xltm	application/vnd.ms-excel.template.macroEnabled.12
.wmv	video/x-ms-wmv	.xltx	application/vnd.openxmlformats-officedocument.spreadsheetml.template
.wmx	video/x-ms-wmx	.xlw	application/vnd.ms-excel
.wmz	application/x-ms-wmz	.xml	text/xml
.wps	application/vnd.ms-works	.xof	x-world/x-vrml
.wri	application/x-mswrite	.xpm	image/x-xpixmap
.wrl	x-world/x-vrml	.xps	application/vnd.ms-xpsdocument
.wrz	x-world/x-vrml	.xsd	text/xml
.wsdl	text/xml	.xsf	text/xml
.wvx	video/x-ms-wvx	.xsl	text/xml
.x	application/directx	.xslt	text/xml
.xaf	x-world/x-vrml	.xsn	application/octet-stream
.xaml	application/xaml+xml	.xtp	application/octet-stream
.xap	application/x-silverlight-app	.xwd	image/x-xwindowdump
.xbap	application/x-ms-xbap	.z	application/x-compress
.xbm	image/x-bitmap	.zip	application/x-zip-compressed

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## APPROVALS

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Your electronic record of approval indicates this document was reviewed and verified for accuracy and thoroughness and that you approve the contents of the document.

Title and Name
Development Director, Nicolas Morelli