InetSupervisor-
FlashSDK_UsersGuide

Revised - November 11, 2011

1.0 Flash Fundamentals

1.1 Flash

This guide makes the assumption that while the user may be new to ***Adobe Flash,*** he/she has a basic knowledge of *C* type computer programming and scripting. ***Quark Communications Inc***. recommends that all users obtain and read Adobe's user guides and help files for Flash.

1.2 Communicator

All communications between client and server is now handled by one flash component called the communicator which is building into the navigation tree. Since the flash components communicate only to the communicator the navigation tree must be present an loaded at all times. For example the default web site contains the navigation tree in the left side navigation pane, not in the center information pane where all the flash is located. Due to the fact that the navigation pane does not close, the communicator (tree) is always on and transferring data to and from any flash that is currently running. The communicator also submits overrides and will check for the proper user level before sending the overriding value (*please see the Inetsupervisor user guide for user level information*).

1.3 Connector Component

The connector is a flash component, made by Quark Communications Inc., to enable it's customers to make their own flash movies that communicate with the Inetsupervisor database. The connector handles all of the connection/communication with the Inetsupervisor database

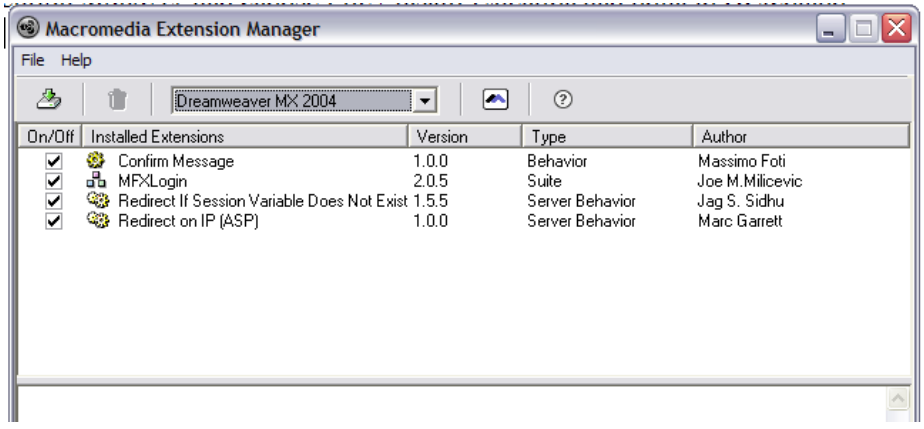
to simplify and ease the making of interactive user graphics. Note Quark Communications Inc. recomends that it's connector be placed in it's own layer in the flash movie, and that that layer spands the length of all the frames in the movie.

2.0 Installing and using QCI's Connection Component

2.1 Installing the Connection Component

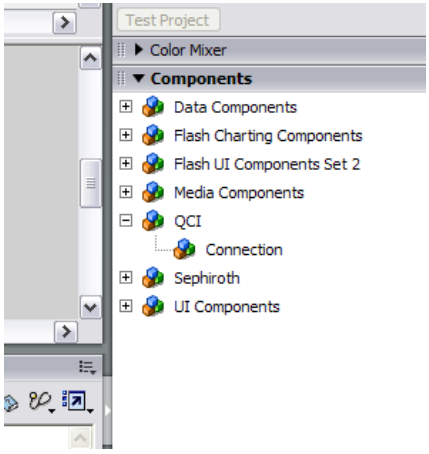
To transfer information to and from the communicator, it is necessary to attach a connection component to every flash movie created. The connection component has been made into a self installing file called ***QCIcomponents.mxp***. To start using the connection component first install ***Macromedia Flash MX2004*** or later then:

1. Install the QCIcomponents.mxp file in a temporary folder and double click or open the ***Macromedia Extension Manager*** and choose File / Install Extension and point to QCIcomponents.mxp.

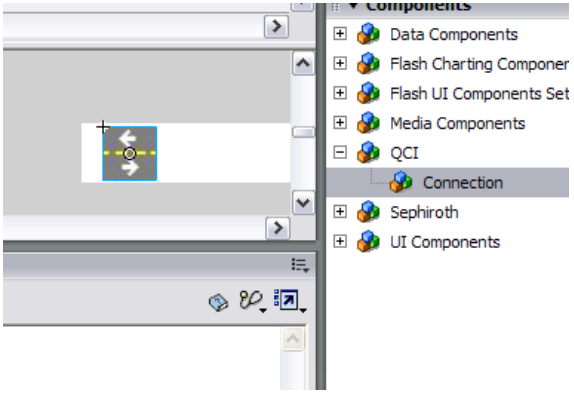


2. Read and accept the disclaimer

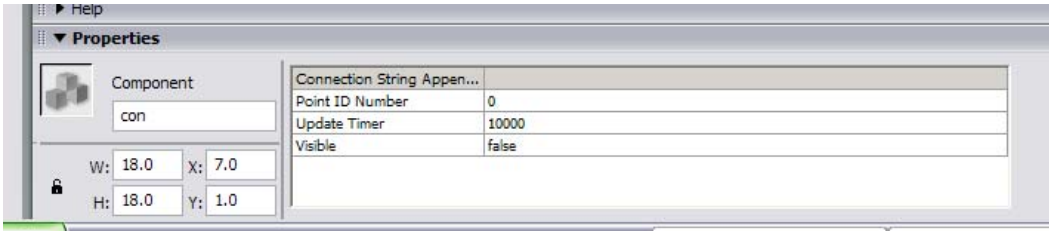
3. When the component has finished installing click O.K. and close manager
4. Open Macromedia Flash
5. Create a new flash movie
6. Open the components panel from window / development panels and check mark component panel or use Ctrl+F7



7. Expand the QCI then drag and drop the connection component onto your movie



8. Give your connection an instance name in the properties box.



2.2 Parameters of the Connection Component

In the properties area you will find 4 adjustable parameters for the connection - Connection String Appendage, Point ID Number, Update Timer, and Visible.

Connection String Appendage

The connection string is a unique identification created dynamically during movie load time and used by the communicator to identify every flash movie individually so each flash movie receives it's proper values. The connection component automatically takes care of creating and sending this connection string to the communicator. If necessary the connection string can be appended with this parameter.

Point ID Number

This is the point id number created in the points table and used to identify individual points in the database. The point id may be "hard coded" in this parameter but more often you will wish to make it user definable which we will see later in this guide.

Update Timer

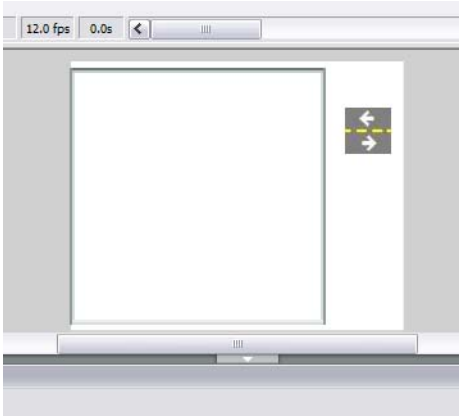
This is the time delay, in milliseconds, between calls to the communicator for a point value update. The communicator is called immediately during movie load and then subsequent calls are made after the time delay has passed. The default is 10 seconds.

Visible

This parameter is used to determine if the component is visible or invisible.

2.3 Using the connection component to display values

1. Open a new flash document and drag and drop the connection component onto the flash movie. Give it the instance name of ***con***. Create a new layer then Drag and drop a TextArea component with the size of 100 pixels wide and 100 pixels tall onto the flash movie also, with the instance name of status_txt.

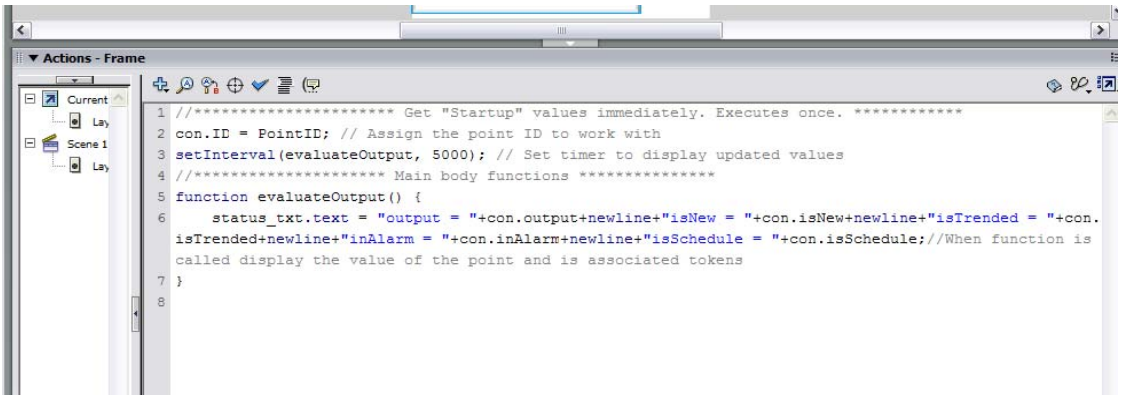


2. Highlight frame 1 of the text box layer and place the following action script into the Actions panel

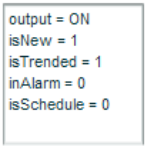
con.ID = PointID;

setInterval(evaluateOutput, 5000);

function evaluateOutput() {status_txt.text = "output = "+con.output+newline+"isNew = "+con.isNew+newline+"isTrended = "+con.isTrended+newline+"inAlarm = "+con.inAlarm+newline+"isSchedule = "+con.isSchedule;}



3. Publish the flash movie to your desired website flash folder (Shift+F12).
4. Place the new .swf file onto a webpage with the communicator. Identify the Point ID number by adding the ***<param>*** tag with *"**flashvars**"* as the name and with "***PointID=XXX"*** as the value, where ***XXX*** is the database point id number, please see Inetsupervisor user's guide for a further description of this process. Publish the webpage.



The script illustrates how to make the Point ID user defined and how to receive information from the connection.

1. Line 1 assignees the value of PointID, given to us by the ***PointID= "flashvars***" param tag, the variable ID associated with the component named con.

con.ID = PointID;

2. Line 2 creates a timer that calls the function evaluateOutput every 5 seconds

setInterval(evaluateOutput, 5000);

3. Line 3 is the function evaluateOutput. When the function is called it assignees the value of the point id given(con.output) and the value of it's associated tokens (con.isNew, con.isTrended, con.inAlarm, con.isSchedule) to the text of status_txt.

function evaluateOutput() {status_txt.text = "output = "+con.output+newline+"isNew = "+con.isNew+newline+"isTrended = "+con.isTrended+newline+"inAlarm = "+con.inAlarm+newline+"isSchedule = "+con.isSchedule;}

The tokens are used for passing additional information about the database point beyond just the value.

instanceName.output

This is the point value as it is current in the SQL database. This value may be anything from a number to a text string. If the point is digital the only values passed from the communicator are the strings "ON" and "OFF".

instanceName.isNew

The value of 1 will be sent if the point update delivered time is newer than the current server time minus the value (in seconds) set in the web.config file. If not then the value of 0 will be sent.

instanceName.isTrended

The value of 1 will be sent if the point's isTrendable check box is checked. If not then the value of 0 will be sent.

instanceName.inAlarm

The value of 1 will be sent if the point is currently in alarm. If not then the value of 0 will be sent.

instanceName.isSchedule

The value of 1 will be sent if the point's isSchedule check box is checked. If not then the value of 0 will be sent.

instanceName.ID

The database identification number of the point.

3.0 Using multiple data points

As of version 2.2 the SDK supports functionality for multiple data points controlled with single connector object. The point IDs are now assigned into a POINTIDS array, as are output values and tokens.

3.1 Assigning point ids

To assign multiple point ids add them to the array existing in the connector object.

For example, to add three points with id 1, id 2, and id 3 do:

InstanceName.IDS[0] = "1";

InstanceName.IDS[1] = "2";

InstanceName.IDS[2] = "3";

3.2 Reading multiple point values

To read values of points, you assign them from the outputs array to your objects such as text boxes. The index of the output array corresponds to the index of the IDS array.

For example to read values of points 1, 2, and 3 do:

MyTextBox1_txt.text = InstanceName.outputs[0];

MyTextBox2_txt.text = InstanceName.outputs[1];

MyTextBox3_txt.text = InstanceName.outputs[2];

3.3 Reading token values

To read values of tokens, you read them from the tokens array to your object's value.

for example to read value of the Schedule token do:

MyTextBox1_txt.text = InstanceName.IsScheduleMultiple[0];

MyTextBox2_txt.text = InstanceName.IsScheduleMultiple[1];

MyTextBox3_txt.text = InstanceName.IsScheduleMultiple[2];

For example to read value of the Trends token do:

MyTextBox1_txt.text = InstanceName.IsTrendMultiple[0];

MyTextBox2_txt.text = InstanceName.IsTrendMultiple[1];

MyTextBox3_txt.text = InstanceName.IsTrendMultiple[2];

For example to read value of the Alarm token do:

MyTextBox1_txt.text = InstanceName.IsAlarmMultiple[0];

MyTextBox2_txt.text = InstanceName.IsAlarmMultiple[1];

MyTextBox3_txt.text = InstanceName.IsAlarmMultiple[2];

For example to read value of the isNew token do:

MyTextBox1_txt.text = InstanceName.IsNewMultiple[0];

MyTextBox2_txt.text = InstanceName.IsNewMultiple[1];

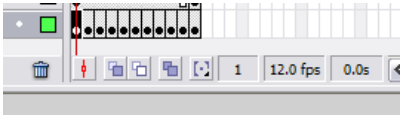
MyTextBox3_txt.text = InstanceName.IsNewMultiple[2];

4.0 Controlling Graphics

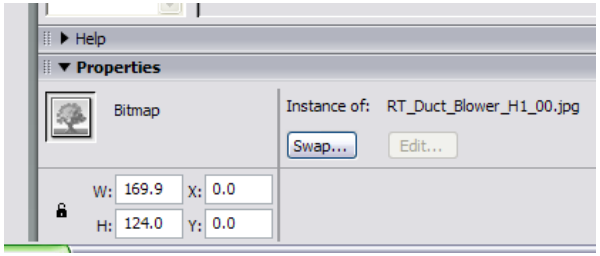
This chapter will show how to use the point value to control 2 kinds of graphics, continuos motion like a fan and position and stop like a valve.

4.1 Controlling a Fan

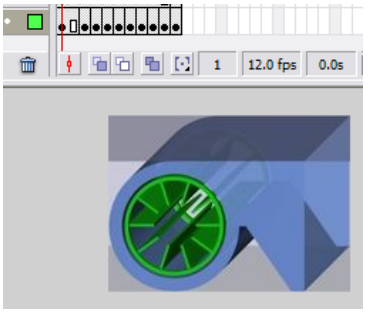
1. Open a new flash document with a 170 by 124 pixel width and height.
2. Go to File/ Import/ Import to Library and import the 10 fan .jpegs with this SDK.
3. Go to the timeline of layer 1, right click and add 10 more keyframes.



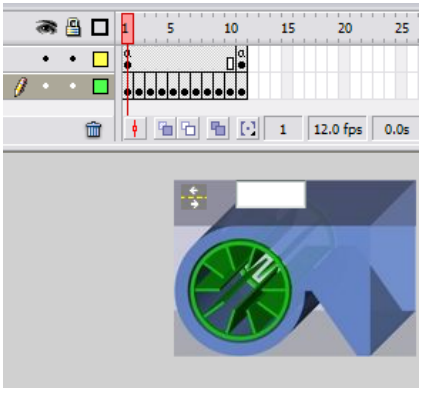
4. Drag and drop the first fan picture on the first and second frames and position them exactly with the background using the properties panel.



5. Do the same thing with the next frames using the next corresponding pictures.



6. Insert a new layer. Then drag and drop the connection component and a TextArea component onto to the movie. You may place these component's any place on the movie. Associate these with the first frame of the 2nd layer. Name the TextArea *status_txt* and size it to 50 by 20 pixel width and hieght. Name the connection *con*.



7. Create a new layer.
8. Make the last frame of the third layer a keyframe.
9. Insert the following code into the action panel of the first frame in the third layer.

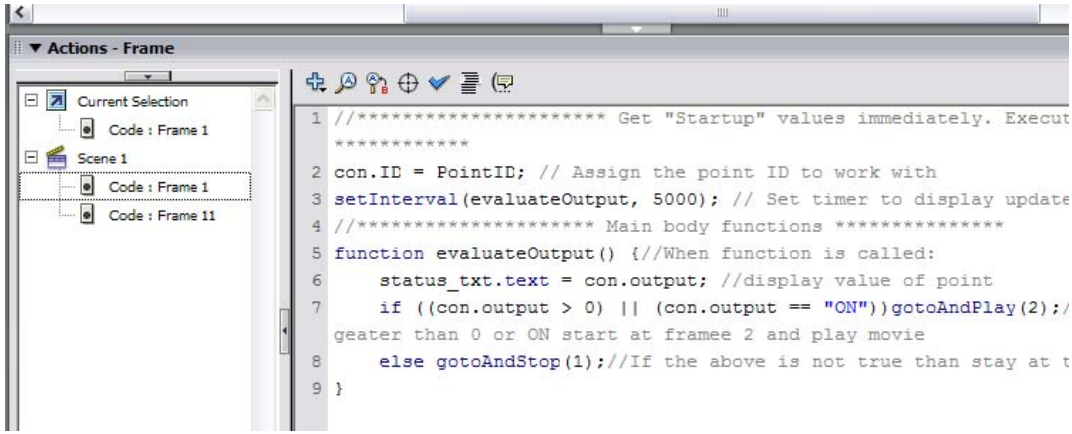
con.ID = PointID;

setInterval(evaluateOutput, 5000);

function evaluateOutput() {status_txt.text = con.output;

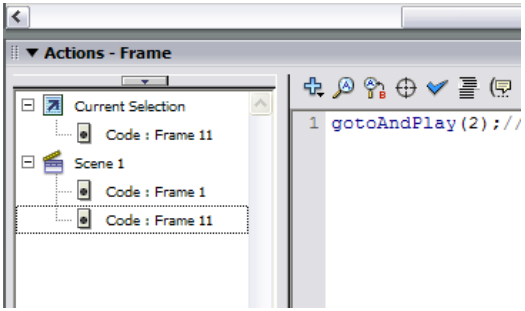
if ((con.output > 0) || (con.output == "ON"))gotoAndPlay(2);

else gotoAndStop(1);}



10. Insert the following code into the action panel of the last frame in the third layer.

gotoAndPlay(2);



11. Publish the flash movie to your desired website flash folder (Shift+F12).
12. Place the new .swf file onto a webpage with the communicator. Identify the Point ID number by adding the ***<param>*** tag with *"**flashvars**"* as the name and with "***PointID=XXX"*** as the value, where ***XXX*** is the database point id number, please see Inetsupervisor user's guide for a further description of this process. Publish the webpage.

The script illustrates how to use the point value to control when to start running a movie.

1. Line 1 assignees the value of PointID, given to us by the ***PointID***= *"**flashvars***" param tag, the variable ID associated with the component named con.

con.ID = PointID;

2. Line 2 creates a timer that calls the function evaluateOutput every 5 seconds

setInterval(evaluateOutput, 5000);

3. Line 3 is the function evaluateOutput. When the function is called it assignees the value of the point id given(con.output) to the text of status_txt. Next it looks at the value of the point and if the value is greater than 0 or a string with the text "ON" the movie will move to frame 2 and start running. If the value is not either of those cases then it stays at frame one and stops.

function evaluateOutput() {status_txt.text = con.output;

if ((con.output > 0) || (con.output == "ON"))gotoAndPlay(2);

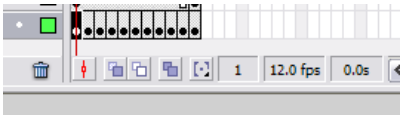
else gotoAndStop(1);}

4. The last frame script shows that if the movie is running and goes to the end frame then go back to frame 2 and start all over again to loop the movie action.

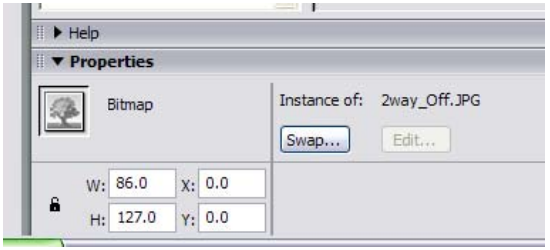
gotoAndPlay(2);

4.2 Controlling a Valve

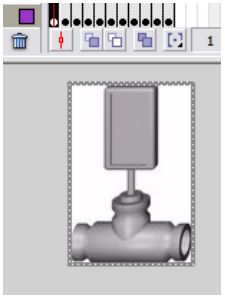
1. Open a new flash document with a 86 by 127 pixel width and height.
2. Go to File/ Import/ Import to Library and import the 10 valve .jpegs with this SDK.
3. Go to the timeline of layer 1, right click and add 10 more keyframes.



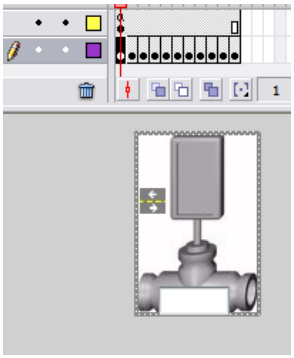
4. Drag and drop the first valve picture on the first frame and position them exactly with the background using the properties panel.



5. Do the same thing with the next frames using the next corresponding pictures.



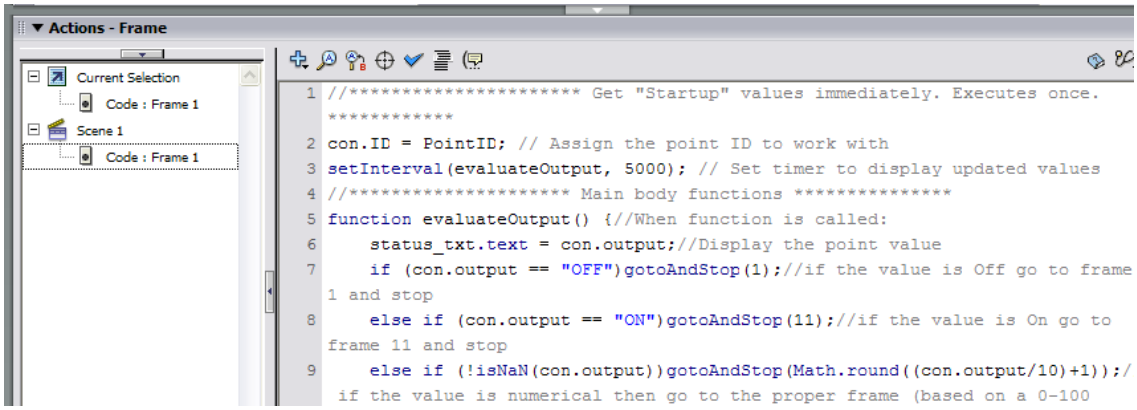
6. Insert a new layer. Then drag and drop the connection component and a TextArea component onto to the movie. You may place these component's any place on the movie. Associate these with the first frame of the 2nd layer. Name the TextArea *status_txt* and size it to 50 by 20 pixel width and hieght. Name the connection *con*.



7. Create a new layer.
8. Insert the following code into the action panel of the first frame in the third layer.

```
con.ID = PointID;

setInterval(evaluateOutput, 5000);

function evaluateOutput() {status_txt.text = con.output;

if (con.output == "OFF")gotoAndStop(1);

else if (con.output == "ON")gotoAndStop(11);
```

else if (!isNaN(con.output))gotoAndStop(Math.round((con.output/10)+1));}



9. Publish the flash movie to your desired website flash folder (Shift+F12).
10. Place the new .swf file onto a webpage with the communicator. Identify the Point ID number by adding the ***<param>*** tag with ***"flashvars"*** as the name and with "***PointID=XXX"*** as the value, where ***XXX*** is the database point id number, please see Inetsupervisor user's guide for a further description of this process. Publish the webpage.

The script illustrates how to use the point value to control what frame of a movie to goto and hold.

1. Line 1 assignees the value of PointID, given to us by the ***PointID=*** ***"flashvars***" param tag, the variable ID associated with the component named con.

con.ID = PointID;

2. Line 2 creates a timer that calls the function evaluateOutput every 5 seconds

setInterval(evaluateOutput, 5000);

3. Line 3 is the function evaluateOutput. When the function is called it assignees the value of the point id given(con.output) to the text of status_txt. Next it looks at the value of the point and if the value is greater is a string with the text "OFF" the movie will stay to frame 1. If the string has the text "ON" the movie will got frame 11 and stay. If the value is a number then the movie will goto the frame closest to the value of the point divided by 10 plus 1 frame.

function evaluateOutput() {status_txt.text = con.output;

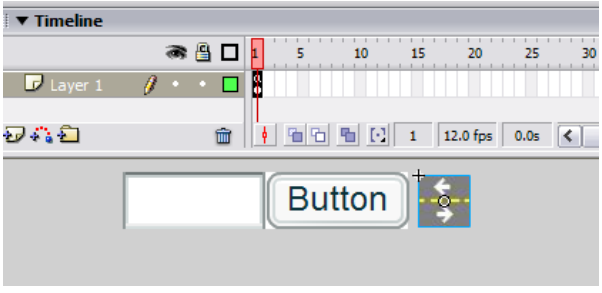
if (con.output == "OFF")gotoAndStop(1);

else if (con.output == "ON")gotoAndStop(11);

else if (!isNaN(con.output))gotoAndStop(Math.round((con.output/10)+1));}

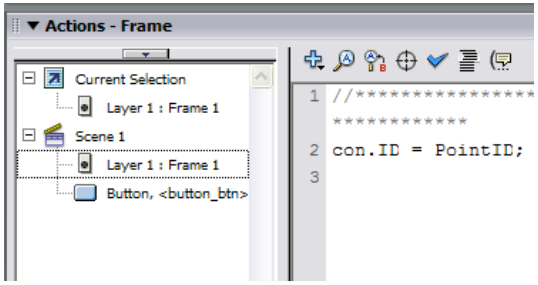
5.0 Sending an Override

1. Open a new flash document with a 100 by 20 pixel width and height.
2. Drag and drop the a TextArea component, and a Button component onto to the movie. Place the TextArea component to the left side of the movie and the button just to it's right. Name the TextInput *input_txt* and size it to 50 by 20 pixel width and hieght. Name the button *button_btn* and size it to 50 by 20 pixels width and hieght.
3. Create a new layer and drag and drop the connection component, Name the connection *con*. Note the connection component does not need to be placed on the movie back ground to work.



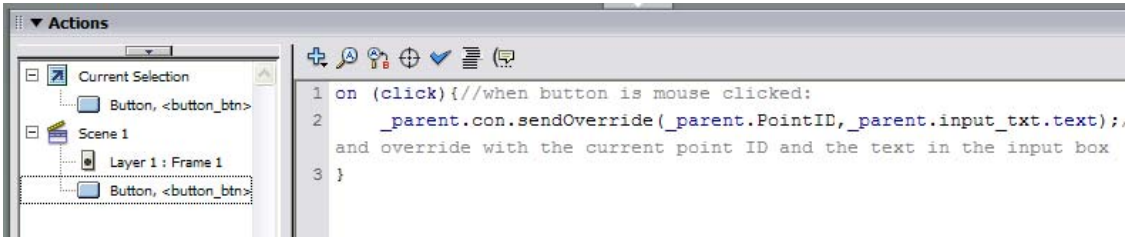
4. Insert the following code into the action panel of the first frame.

con.ID = PointID;



5. Insert the following code in to the action panel of the button

on (click){_parent.con.sendOverride(_parent.PointID,_parent.input_txt.text);}



6. Publish the flash movie to your desired website flash folder (Shift+F12).
7. Place the new .swf file onto a webpage with the communicator. Identify the Point ID number by adding the ***<param>*** tag with *"**flashvars**"* as the name and with "***PointID=XXX"*** as the value, where ***XXX*** is the database point id number, please see Inetsupervisor user's guide for a further description of this process. Publish the webpage.

The script illustrates how to use build in *sendOverride* function in the connection component to send a value to the server for overrides.

1. Line 1 assignees the value of PointID, given to us by the ***PointID***= *"**flashvars***" param tag, the variable ID associated with the component named con.

con.ID = PointID;

2. Line 2 calls the *sendOverride* function of the component and feeds first the Point ID to be overridden then the value to override with, in this case the text typed in the TextInput.

on (click){_parent.con.sendOverride(_parent.PointID,_parent.input_txt.text);}

6.0 Url

If you are useing the communicator frame-work provided with the CD then the communicator can also send the site URL infomation to the connector. To recive this information assign a string variable to the connector name.url *(*i.e *var myVar:String = connectorName.url).* The URL information name will be a string with following text *http://***domain name/root folder**(if used)**/.**

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