Simple Panorama Movie in Flash by R. Berdan (Flash MX – level beginner)

There are many ways to make panoramic movies including Java, javascript, quicktime, and Flash. Quicktime has nice built in controllers that allow you to zoom in and out and even add hot spots that contain hyperlinks however the plug-in is large, users have to navigate to Apple, find and download the large plug-in – hence it is not as popular as the Flash plug-in – which downloads automatically and is up and running usually in under 1 minute. For this reason I am converting many of my virtual realty movies to Flash. I can control the appearance of the movies and add various features. This is the first in a series of tutorials on how to make VR movies using Flash. This movie is the simplest one to make and does not offer any interactive components – the movie circles left or right continuously. In later tutorials I will demonstrate how to add pan left, right, zoom in and out.

1. First you will need a 360 degree panoramic photo. You can create these by taking a series of overlapping pictures with a digital camera (lock the exposure so that each image is exposed the same). There are lots of software programs you can use Photoshop elements II, Live Picture or you can use photoshop and layer masks – see my photoshop tutorial on how to stitch images together. If you don't have a panorama, no problem – just go on the web, my web site or search google and you will find lots that you can use for this tutorial. My web site: http://www.scienceandart.org/pan_vr/pan_thumbs.html has several small pans you can use for this tutorial (e.g. see below).

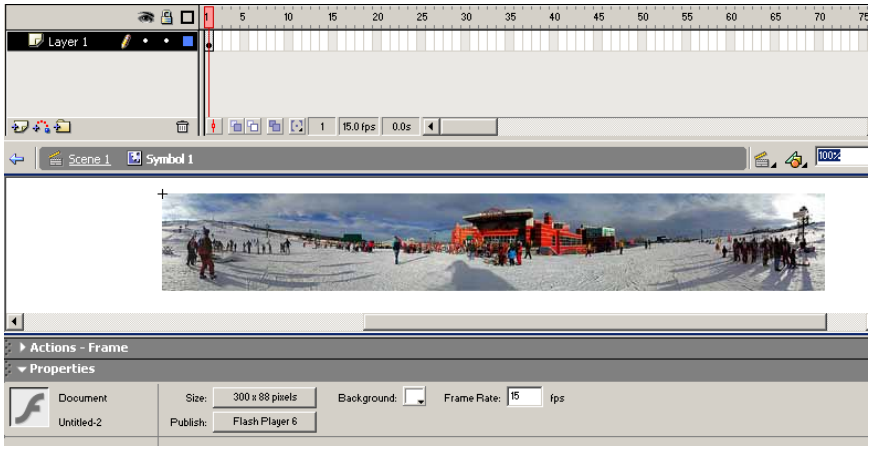
Movie is 600 x 88 pixels (72 dpi) a bit small but OK for this beginner tutorial

2. Start up Flash and create a new movie. Select Modify>Document set the movie dimensions to Width 300 Height 88 pixels, 15 fps – leave the background white.

3. Select>Insert new New Symbol>Movie clip>OK

4. In movie clip editing mode>Select File>import> select the pan photo

5. Move the photo so that it is positioned at x=0, y=0, check the properties box the + sign in the movie stage should be positioned at the top left corner of your image.



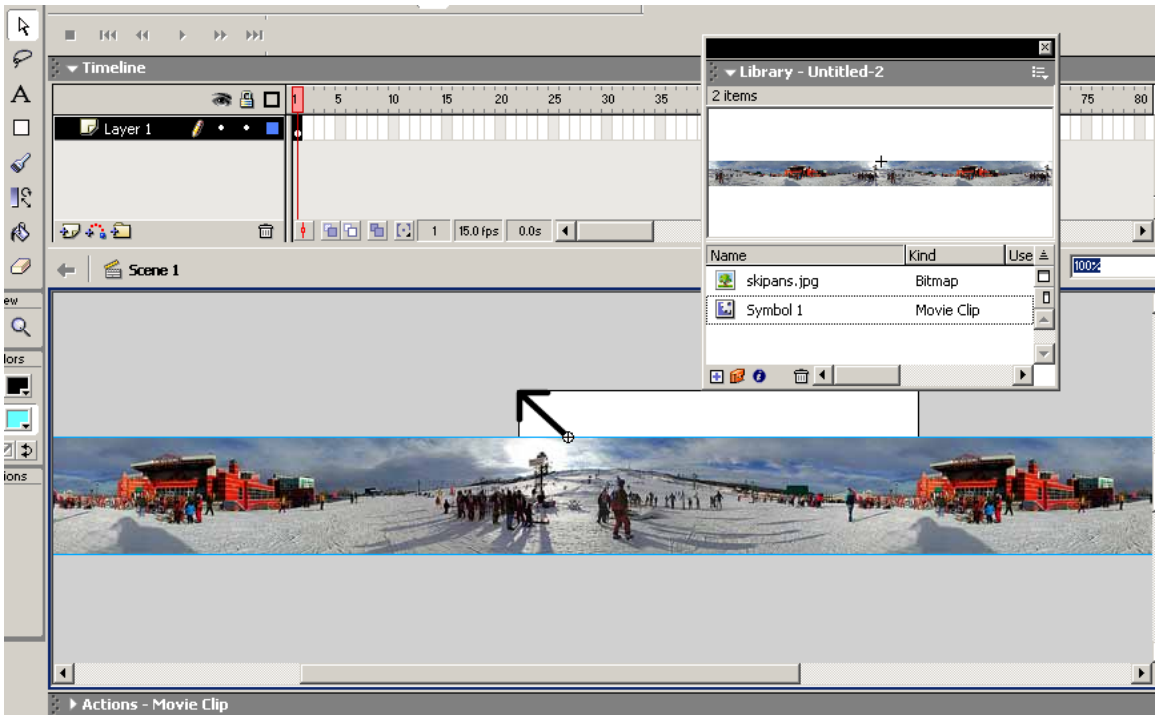
6. Select the image and then select Edit>Copy then Edit>Paste in place to place a copy on top of itself.

7. Use your pointer (hold the shift key down to restrict mov't of the top picture to the x axis) and drag the image to the left so it lines up with the image on the right. Zoom in if you have to in order to make sure there is no space between the pictures.

8. Select> Modify>Group to group both pictures into one.

two pan pictures grouped together.

9. Return to the main movie stage (click on the left pointing arrow beside Scene 1 Open the library by Selecting Window>library and find your movieclip (if you did not name it will be called Symbol 1). Drag the movieclip from the library onto to the stage so that the center + is positioned at the upper left corner of your movie background.

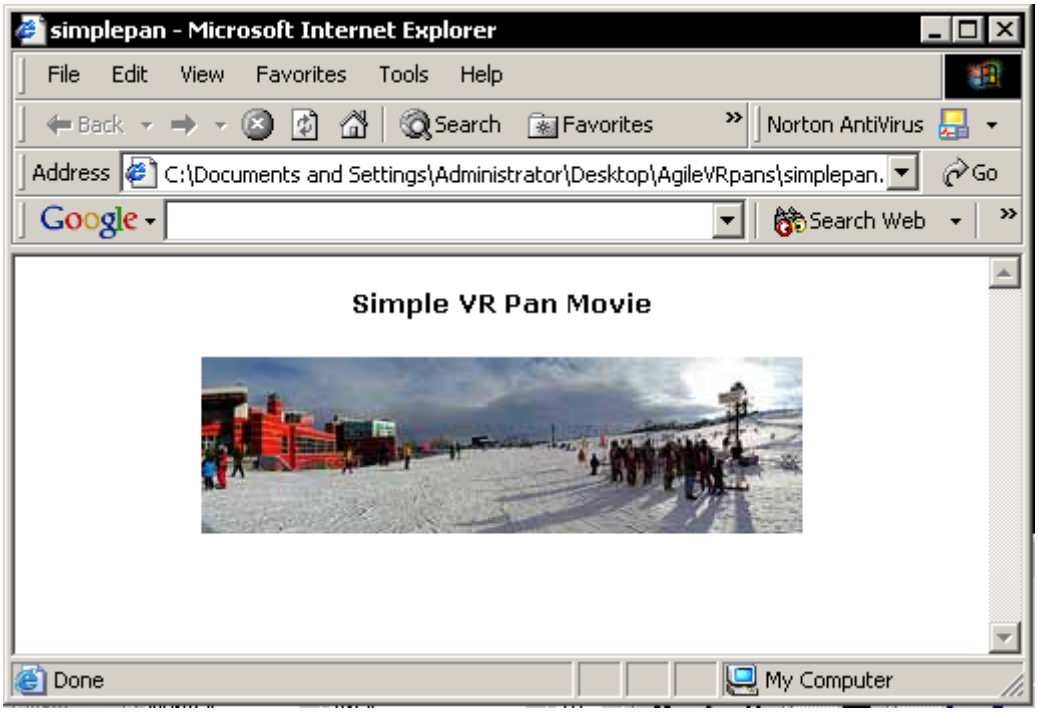


Black arrow shows that you drag the top center point of your double pan picture to the top left corner of the main movie (with this movie Y=0 and X = -600) directly in the center of the pan.

(Use the other upper right hand corner if you want the movie to go in the opposite direction)

10. Insert a Keyframe at about 400 (the higher the keyframe number the slower the pan will move – you can adjust this later). Then drag the movie clip to the right so that X=0 and Y=0. The right edge of the movie clip should be at the right edge of the main movie.

11. Select the first keyframe, Select>Insert>Create Motion tween. Save your movie, publish it and preview the HTML. You should see the movie moving from left to right slowly. You will need to edit the HTML and add tags around the movie and you are done! You can add borders, text etc even stop and play buttons if you like.



If you want to add simple interactivity you can add some buttons form the common libraries and add actions stop and play.

Quickly: Create a new layer call it buttons. Open the common library Select Window>common libraries. Locate some buttons with arrows on them and drag them over your picture – make sure they are over top of the main movie stage as well.

Right click on the play button, select actions and in the action script window add

```
on (press) {
        play();
}
```

Do the same for the stop button

```
on (press) {
        stop();
}
```

Finally select the first keyframe of the movie layer 1, right click on it and select>actions. Add the action

stop();

This is so the movie is not moving when it first loads. Save and publish your movie and you now have a simple interactive VR.

Reversing the movie is requires a bit more work and use of action script.

Part II Intermediate Level **Adding a Reverse Movie button**

(modified from http://www.webwasp.co.uk/tutorials/b06-backwards/backwards.php)

The trick is to build an invisible controller movie clip

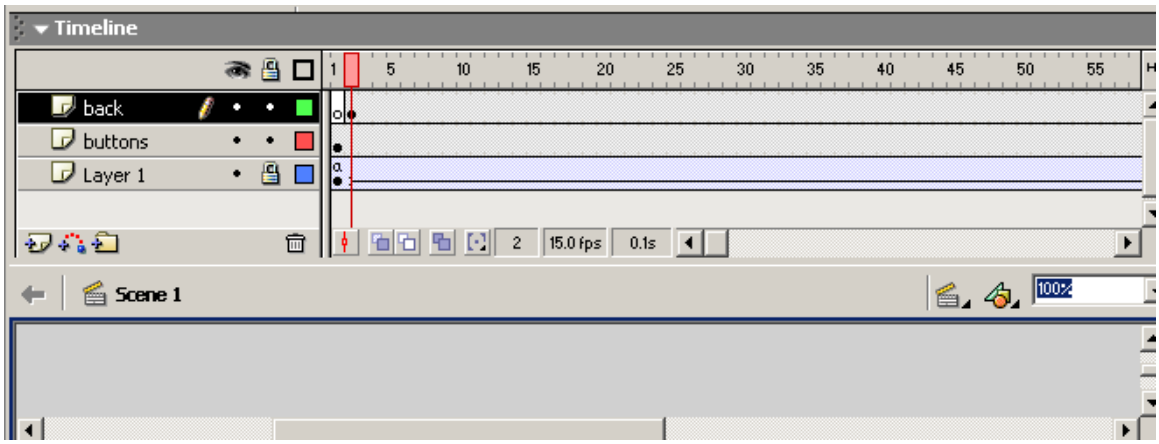
That is a piece of actionscript that when you click the back button repeatedly says prevFrame(); prevFrame(); prevFrame(); etc. Until you get to frame one then the controller says nothing. In other words you need to be able to switch the instruction on and off. If you could not switch it on and off, when you hit the play button, one bit of script would be saying prevFrame(); and another would say play();. This would cause an obvious conflict.

The controller has to be able to be:

- Switched on
- Repeat an instruction innumerable times
- Switched off

A. Start with adding a new layer call it back.

1. Click on the Insert new layer button .
2. Name the new layer: **Back**
3. Go to frame 2 of this layer, right click, select: **Insert Blank Keyframe**
   You place the back button in frame 2 for the same reason that you removed the last frame of the play layer, except the play head will be going in reverse. If the play head is on frame 1, you cannot go backwards.
4. Open the Common button Library: **Window > Common Library > Buttons**
5. In the Library, double click on the Playback folder to open it.
6. Drag the **gel left** button, to the left side of the stage.
7. Close the Library.



B. The Controller Movie Clip

You should not build a controller on the main stage because that limits your ability to switch it on and off.

1. Create a new symbol by going to: **Insert > New Symbol**
2. For name: **Controller MC**
3. For behavior: **Movie Clip**
4. Click: **OK**
5. Right click on frame 1 of the movieclip and select: **Actions**
6. Select: **+> Actions > Movie Control > Stop**
   This is the off position. The movie clip does not go to frame 2, there are no instructions. It is dormant.

C. Add The Controller Movie Clip - Frame 2

1. Right click on frame 2 and select: **Insert Blank Keyframe**

   
   Your time line should look like this.
2. Right click on frame 2 and select: **Actions**
3. Make sure the Actions panel is set to Normal.
   You do this by clicking on the side menu button ( ). Select Normal.
4. Select: **+> Actions > Movie Control > Goto**
5. In the options above select: Type > Previous Frame
   This will place the following script:

   ```
   prevFrame();
   ```

   This is no good, as it will go to the previous frame of this movie clips time line rather than the main time line on the main stage.
6. Change the Actions panel to: **Expert mode**
   Click on the side menu button ( ). Select Expert.
7. In front of the prevFrame(); type: _root. (The dot is not a full stop, you need to type it!)
   Your script will look like this:

   ```
   _root.prevFrame();
   ```

   This will instruct the main stage the (root directory) to go back a frame. But it will only go back one frame!

D. The Controller Movie Clip - Frame 3

1. Right click on frame 3 and select: **Insert Blank Keyframe**
2. Right click on frame 3 and select: **Actions**
3. Select: **+> Actions > Movie Control > gotoAndPlay**
4. For the frame option type: **2**
   Your script should look like this:

   ```
   gotoAndPlay(2);
   ```

   
   Your time line should look like this.

E. The loop

In the above script gotoAndPlay(2); there is no _root. That means that the script will go to frame 2 of the current time line: The Controller movie clip

Which is what we want. So the playhead to goes back to frame 2, this will repeat the instruction on frame 2 (_root.prevFrame();). The play head in the main time line will go back one frame.

Our controller movie clip will continue to play to frame 3, as there is no instruction for it to stop.

In frame 3 of Controller, is an instruction to go and play frame 2 (gotoAndPlay(2);). The play head in the controllers time line will go and play frame 2.

This will repeat the instruction to move the playhead in the main time line back one frame.

The loop goes on indefinitely.In other words it will make the main timeline play continuously backwards.

Frame 1: Controller is switched off.
Frame 2: Instructs the main time line to go back one frame.
Frame 3: Instructs frame 2 to repeat it's instructions.

F. Switching the loop off/on

There are a number of ways to switch a controller on and off. We will switch in on with the back button. You can also switch controllers on and off with instructions in the main time.

G. Setting up the controller on the main stage

1. Go back to the main stage by clicking on the scene 1 button: 

2. Open your Library: **Window > Library**
3. Select frame 2, Back layer.
4. Drag your Controller MC onto the stage.
   You can put it any place you like as it is invisible when you test the movie or view it in a web page.
   In Flash, an invisible Movie Clip looks like this: ○
   If it is highlighted it will have a cross in the middle.

   By placing the controller in frame 2, it does not exist in frame 1.

   If the controller has been looping, and the main time line going backwards, when the main play head reaches frame 1 the controller does not exist. The loop will have stopped. If the viewer clicks on the play button, the play head on the main stage will go to frame 2 and play. The controller play head will be by default on frame 1. As there is a 'stop' in that frame the loop does not play.
5. For the back button to instruct the controller to play, the controller must have a name. If the controller is not selected, click on it with the Arrow tool .
6. Open the Property panel: **Window > Properties**
7. Where it says Instance Name, type: **control**

   The controller is now ready for action.

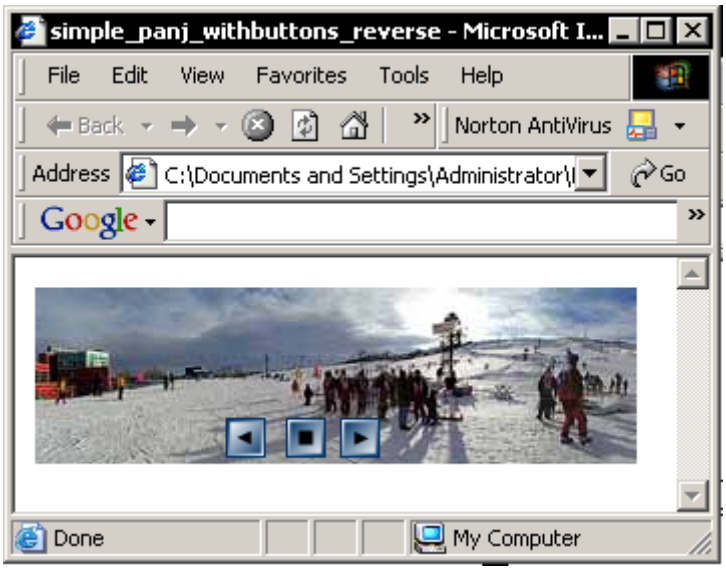
H: Actionscript for the back button

1. Right click on the back button on the left.
2. Select: **Actions**
3. Set the Actions Panel to: **Normal Mode**
4. Select: **+> Actions > Movie Control > Goto**
5. In the frame option above type: 2
   Your script will look like this:

```
on (release) {
    gotoAndPlay(2);
}
```

   This of course refers to the main time line not the controller, we need to change this.
6. Set the Actions Panel to: **Expert Mode**
7. Type the target path:

```
on (release) {
    _root.control.gotoAndPlay(2);
}
```



When the movie plays the reverse button shows up and if you press on it the movie will reverse back to frame 1 and stop. The concept of using a movieclip as a controller will be taken further in a tutorial where I show how to make an interactive pan VR movie with zoom buttons.

Most of the code above is borrowed from several sources and you may find ways to improve the scripts if you do I would love to hear from you.