

Masked Routes & Morphs: Flash 8

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With the Flash skills you have acquired, you may now wish to show movement and change over time in a geographic context. One approach for animating a line uses a mask that can show routes, trends, and movements by revealing them as they flow across the basemap. To show changing spheres of influence, or the spread of some phenomenon, we'll employ a new tween. We have already learned how to animate an object moving from point 'A' to point 'B' using a motion tween. Now you will learn to morph objects from 'A' into 'B' using a shape tween. With these tools, for example, you could animate the migration path of a bird species and display the changing distribution of its food source over the landscape. Sweet!

The objectives of this tutorial are:

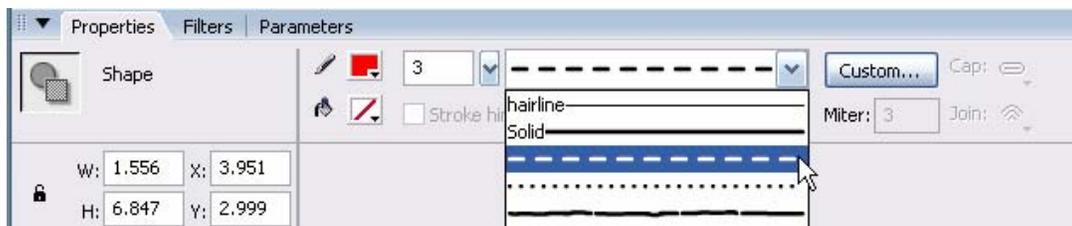
- Learn how to reveal a route with a mask.
- Set a motion tweened object to follow a path.
- Morph a polygon from one shape into another using a shape tween.
- Add shape hints to the tween in order to control the morph.

Collecting Base Data:

- First, you need to find a basemap on which you can draw a route to a location, and then show the spread of some phenomenon. Have fun with this, using a simple map, and just concentrate on learning the skills of the tutorial. (Hint: a treasure map that you draw in Flash would be perfect!)
- To get started, open Flash, create a new Flash document, and save it as "your_name_mask.fla".
- Once you have your basemap on the stage and the size is set, (See past tutorial if you need a refresher) get ready to animate!

Drawing and Revealing a Route:

- Create a "Layer" and name it "Route".
- Select the "Pen" tool and use the menus in the "Properties" panel to pick the kind of line you want to draw. "Stroke Height" sets the line size and "Stroke Style" changes the line from solid to dashed, or a few other options.



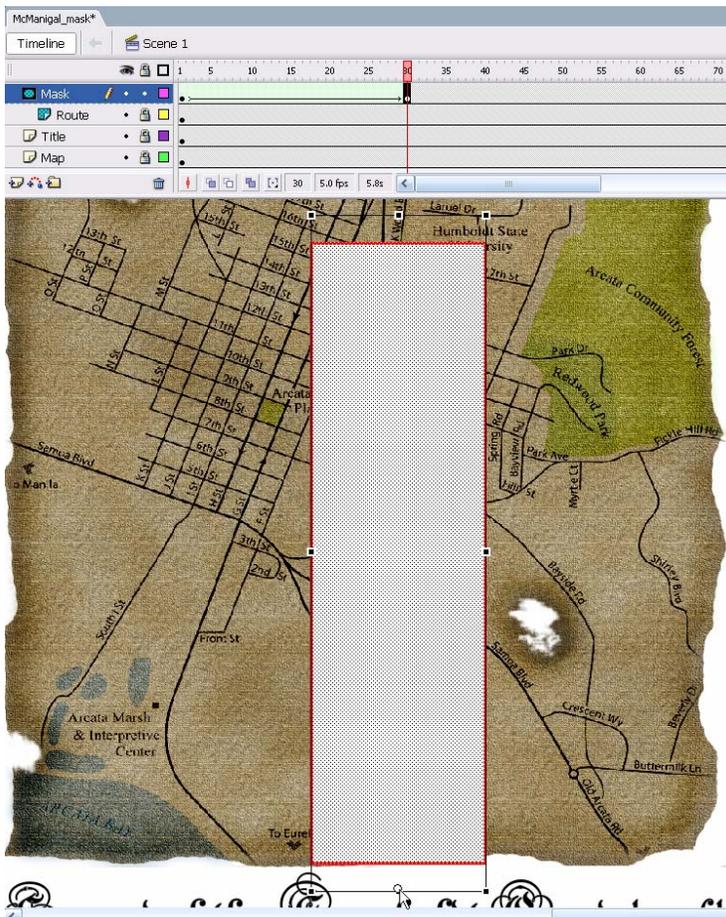
- Set the line color using the "Stroke Palette" in the "Tool Bar," or in the "Properties" panel (Remember, a line only has stroke and no fill).

- Next, using the “Pen” or “Pencil” tool, draw your route on the map. Try not to make it too complicated for your first time, avoiding hairpins and loops. Simply draw a nice flowing line from one point on the map to another.
- Create a “Layer” and name it “Mask”.
- With the “Rectangle” tool, draw a box behind the imaginary starting line of your route. It should be wide enough to cover all the meanderings of your line.
- Now on frame 30 of your “Mask” layer, insert a “Keyframe”.

* If you have not figured it out yet, you will have to “Insert Frames” for all of the layers to see them past frame 30. The easiest way to do this is by selecting the frame on the top layer and dragging straight down to the last layer. One frame in all the layers should be selected in a vertical column and highlighted blue. Right-click on any selected frame and choose “Insert Frame”. Practice this on frame 120 now. Each new layer will automatically have 120 frames.



- On frame 30 use the free “Free Transform” tool to drag your box in the direction of travel for the route until it extends just past your ending point.



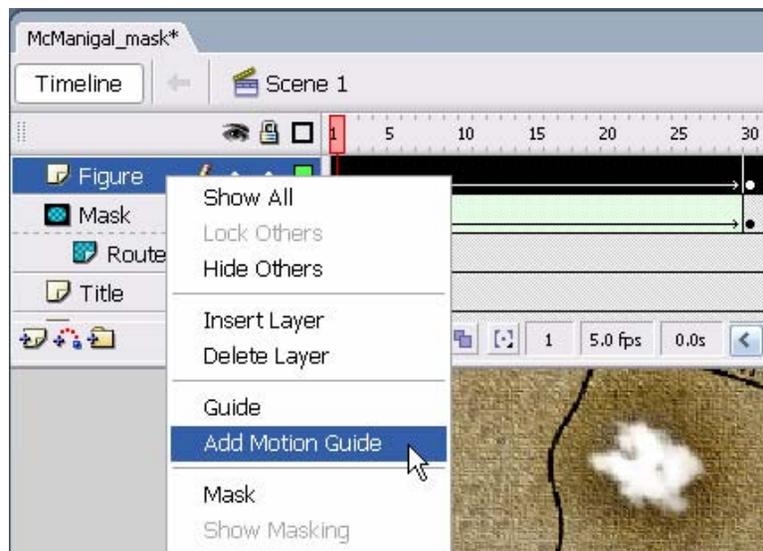
- On the “Mask” layer, click on any frame in-between the key frames. In the “Properties” panel under “Tween,” select “Shape”. In the timeline there will be a tween arrow and the frames should turn green.
- On the “Mask” layer name in the timeline, right-click and choose “Mask”. This “” icon will appear on that layer, as well as a “” icon on the “Route” layer that is being masked. A mask always affects the layer immediately below it.

- Test the movie to see your route slowly revealed! (If it is too fast, adjust the frames per second.)

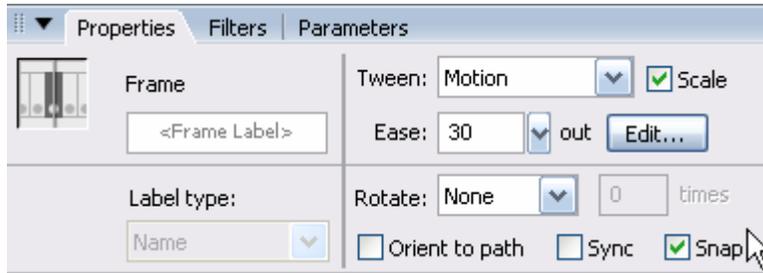
You are now ready to animate a symbol along the route!

Animating on a Path:

- On a new layer, draw or import a small figure that will follow the route and give the impression that it is laying the line as it moves.
- Place the figure at the start of the route in frame one.
- On frame 30 of your “Figure” layer, right-click and select “Insert Keyframe”.
- With the figure selected on only frame 30, move it to the end of the route.
- Right-click on any frame in-between the “Keyframes” on the “Figure” layer and select “Create Motion Tween”. An arrow will appear on the timeline and the frames will turn purple.
- * Voila, you have a motion tweened figure! Now let’s make it follow the route.



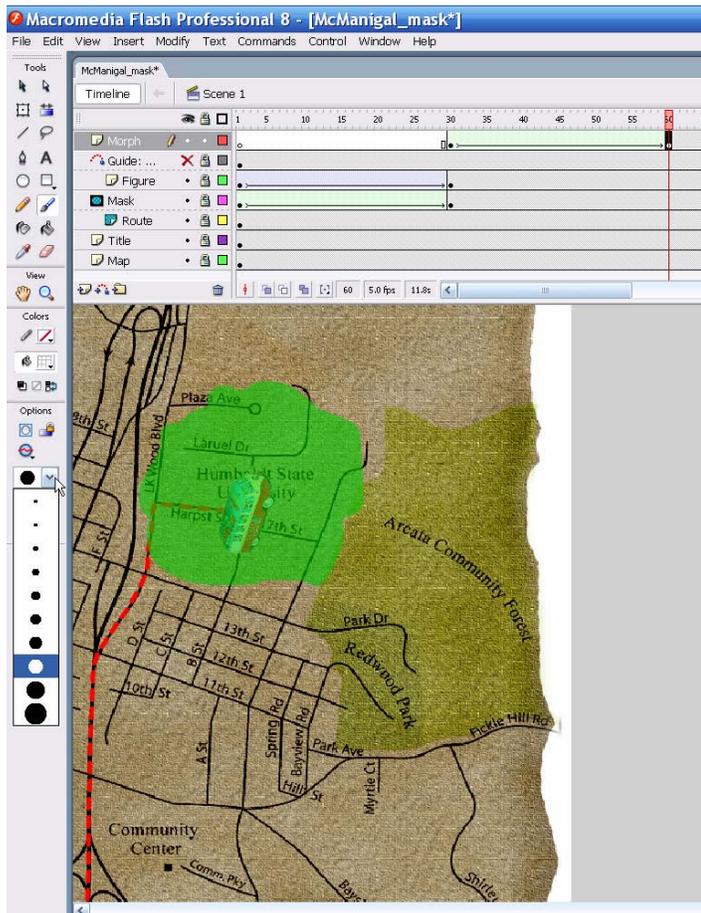
- Right-click on the “Figure” layer and select “Add Motion Guide”. A new layer will appear above named “Guide” with the “” icon.
- Select your route on the “Route” layer and copy it by typing “Control + C”.
- Highlight frame 1 on the “Guide” layer and go to the “Edit” menu, then select “Paste in Place”. You are using the route as the path for your tweened figure.
- Now snap the figure to the beginning of the line on frame 1 and the end of the line on frame 30. (It is easier to snap the figure to the line if you drag it by the registration circle in the center.) Depending on how well it was placed to begin with, the figure may already be snapped to the route.
- Select frame 1 of the “Figure” layer and in the “Properties” panel, check “Snap”. The “Registration” circle of the figure will now follow the “Guide”.



Test the movie and watch the figure cruise along the route revealing the path as it goes! Pretty Cool! In the next steps, you will learn how to morph polygons and control the look of the metamorphosis.

Morphing Polygons with a Shape Tween:

- As usual, create a new layer, and then name it “Morph”.
- Go to frame 30, right-click and “Insert Keyframe”.
- Select the “Brush Tool”, set a fill color, and turn off the stroke. (Once the stroke is off, it is gone for good. You could just make it transparent until you want to show it, but for this tutorial it will be easier to just select “”)”)



- On frame 30 draw a small blob near the figure at the end of its path.
- Insert a “Keyframe” on frame 60, and draw a much larger blob with the “Brush Tool”. You can control the brush size in the “Tool Panel” under the “Options” section that opens when a tool is selected.
- Click in-between these “Keyframes” on the timeline, and in the “Properties” panel under “Tween,” select “Shape”.
- The polygon should morph from small to large on the test.

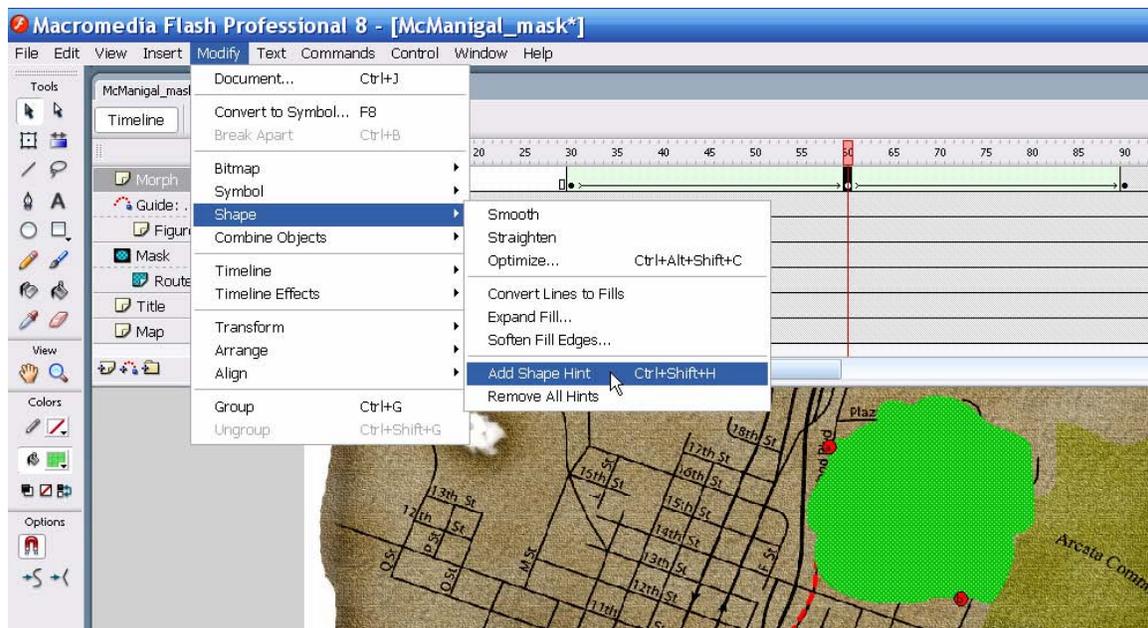
- In frame 30 of the “Morph” layer, select the blob with the “ Selection Tool”. In the “Color” panel, change the “Alpha” to zero.
- Now, with the blob selected in frame 60, change the “Alpha” to 80%. The polygon will now fade in as it grows and render the art beneath visible.
- Now, insert a “Keyframe” on frame 90 of the “Morph” layer.
- On frame 90 draw another blob of similar size away from the last, with a channel that connects the polygons. Make a “Shape Tween” out of it as you have done previously, and test the movie.

You may get a weird morph that distorts the shapes, or breaks them apart, before returning them to normal in the final frame. If not, it’s only a matter of time before a “Shape Tween” goes berserk on you. We can fix it with “Shape Hints”.

Adding Shape Hints:

“Shape Hints” should be thought of as a set of gates that a morph is constrained to flow through. They also act as place markers that say, “Make this point at the beginning of the tween, stop at this point by the end of the tween.” “Hints” take some practice to figure out, but imbue enormous control over animation.

- Select frame 60 of the “Morph” layer and in the top menu click “Modify,” then “Shape,” and “Add Shape Hint”. A small red circle with the letter “a” will appear on your blob.



- Place it on the outside edge of the polygon away from the channel that leads to the next blob. Get another “Hint” using the keyboard short-cut “Ctrl + Shift + H”, and place it opposite the first one. The new “Hint” will have “b” on it, and will also be red.

- Slide the red timeline scrubber down to frame 90, and the “Hints” will reappear. (They may be stacked on top of each other, so it may look like only “b” is there. Just move it to find “a”.) Place them at the same locations they rest on back in frame 60. When the “Hints” are linked with their corresponding partner, they will turn yellow.
- Now drag the scrubber back to frame 60 and watch how the morph stays still behind the “Hints”. You will also notice that the “Hints” are now yellow on the first frame of this tween.
- Repeat this process at the mouth of the channel, or experiment with other placements to get the effect desired.
- If the “Hints” are getting out of control, right-click on a yellow one in the beginning frame of a tween and select “Remove Hint”, or “Remove All Hints” to start from scratch. (A final tip: at some point you will lose the “Hints”, so go to “View” in the menu and select “Show Shape Hints”. Presto, they’re back!)

That’s all for this tutorial, unless you want to add buttons, pictures, timelines, action script, or any of the other cool things you know how to do in Flash! None of that is necessary for this assignment, but a title might be nice.

Summary: In this Tutorial you Learned to:

- Reveal a route with a mask.
- Set a motion tweened object to follow a path.
- Morph a polygon from one shape into another using a shape tween.
- Use the Alpha setting to control transparency.
- Add shape hints to the tween in order to control the morph.

Congrats, You’re now Armed and Dangerous in Flash!