week::eight
Motion Tweening

Introduction to Motion Tweening

Overview

- o Like other tween methods, Motion tweening takes care of the grunt work of animating the in-between frames of an animation.
- o However, it does so by using only **one true keyframe**.
- o As with Classic tweens, a **tween-span** is created in the Timeline that allows changes to a Symbol's properties over time.
  - ▪ Motion tweening requires Symbols or text boxes.
- o Tween-spans contain **Property Keyframes**—points in time where a property of the Symbol changes.
- o By default, Motion tweens also have a **Motion Path** that the artwork follows. This path is fully editable using Adobe Animate's vector tools.
- o Motion tweens can be fine-tuned using the **Refine Motion Tween** option.

What can you do with Motion tweening?

- o Manipulate Symbols and text areas
- o Edit the path on which the Symbol moves
- o The position of a Symbols (creating motion)
- o The color and effect of a Symbol (tint, brightness, alpha, etc.)
- o The size and skew of a Symbol
- o Automatic rotation of a Symbol
- o Animate editable text (even if it is not a Symbol)
- o Manipulate Symbols from bitmap images (JPEG, PNG, etc.)

What can you NOT do with Motion tweening?

- o Tween the shape of an object or shape (shape morphing)
- o Tween shapes or broken-apart text
- o Tween multiple shapes or objects on the same layer

Motion Tweening and the Timeline

- o Adobe Animate indicates Motion weens by applying a mustard yellow tint to the affected frames in the Timeline.
  - ▪ Motion tweens do not have arrows in the Timeline.
- o A single **Keyframe** begins a Motion tween.
- o **Property keyframes** are marked on the Timeline with a small diamond.
- o In the example below, there is one Keyframe (with content), and four Property keyframes in the Motion tween.

— Lecture Outline —
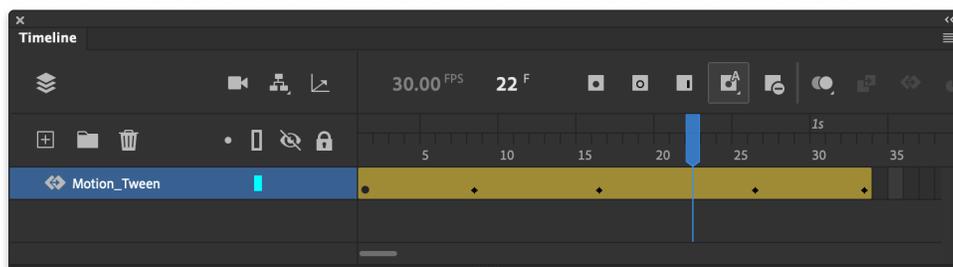
Creating Motion Tweens

Motion Tween Creation Steps

1. Create a new, blank keyframe in the Timeline, and select that keyframe.
2. Place your initial object (a Symbol or text block) on the Stage.
3. Select the keyframe in the Timeline, and either select Insert > Motion Tween, or right-click on the frame you selected and choose Motion Tween.
4. Adjust the length of the resulting frame span in the Timeline, setting it to the desired length.
5. Move the Timeline Playhead to a place in time at which you what to change a property of the Symbol.
6. Make a change (scale, position, alpha, rotation, etc.) to your Symbol.
7. Repeat Steps 04 and 05, changing the tween as needed.
8. Test your tween using the Playhead, or press Return.

Motion Tweening Tips

o Only use one Symbol per Motion tween
o Animate multiple Symbols by placing them on their own layers.
o Onion Skinning works with Motion tweens. Use it to view multiple frames at the same time.

Modifying Motion Tweens

Modifying Motion Tween Spans

o To select just a **single frame**, simply click on a frame in the span.
o To select an entire frame span, **Option-click** any frame in the span (Adobe Animate will automatically select the entire span).
o To **move an entire frame span**, select all of the frames by selection either the first or last frame, then Shift-click the opposite frame, then drag-and-drop it to its new location in the Timeline.
o To **lengthen or shorten** a Motion tween, move the mouse over the last frame until a double-arrow appears. Click-and-drag with the double-arrow to set the new length.
o To **add or remove individual frames**, click on a frame and press F5 (add) or Shift-F5 (remove) to adjust.

Modifying Tween Properties

o To modify basic Motion tween properties, select any frame in the motion tween-span, then edit the settings presented in the Properties panel.
o This panel allows you to change:
    ▪ Ease settings
    ▪ Rotation (number, direction, etc.)
    ▪ Path location and size
o Motion Tweens use an entirely different (and much simpler) easing function.
    ▪ Much of what you would use complex easing for in Classic Tweens can be done by adjusting the Property Keyframes in the Timeline.
o The **Orient to path** option forces a Symbol to maintain their original alignment with the motion path as it travels along it. This makes the animation look more natural.
o These settings can be fine-tuned using the more sophisticated (and much more complex) **Refine Motion Tween** editor.
    ▪ To access, right-click on the tween in the Timeline and select Refine Motion Tween.
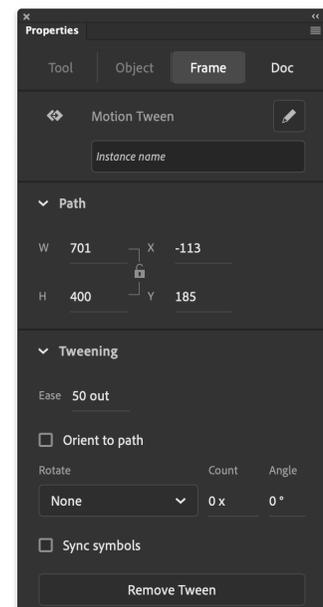
Property Keyframes

Overview

- o Property keyframes are points in the Timeline at which some property of the Symbol being animated is changed by the animator (that's you).
- o Some properties that can be changed:
  - Basic motion (X, Y, and rotation)
  - Transformations (size and skew)
  - Color effects (tint, alpha, brightness)
- o Any change to a Symbol requires a Property keyframe.
- o Property keyframes are marked on the Timeline with a small diamond.

Creating and Modifying Property Keyframes

- o Property keyframes *cannot* be created manually in the Timeline.
- o Adobe Animate creates them when you alter any property of a Symbol within the tween-span.
- o The key first step is to **set the Playhead to the frame** in which you what to make a change.
  - Without doing this step, working with Motion tweens will be very frustrating.
- o With a frame selected, select the Symbol in the Stage, then alter its appearance:
  - Use the Selection tool to move it around the Stage.
  - Use the Transform tools to change its size.
  - Use the Properties Panel (right) to change the Symbol numerically, or to apply a color effect.
- o To modify the Property keyframe, move the Playhead to that frame, then make your changes to the object in the Stage.
- o To remove a single Property keyframe, click on the frame in the Timeline, then right-click on the keyframe and select **Clear Keyframe > All**.
  - To remove all Property keyframes from a Motion tween, right-click on the keyframe and select Clear Keyframe > All.
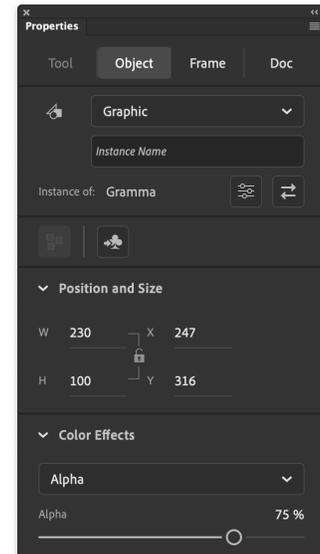
Motion Paths

Overview

- o By default, Adobe Animate creates a **Motion Path** for each Motion tween.
- o As you move the object around the Stage, a basic vector path is automatically created.
- o This path is fully editable using Adobe Animate's vector tools.
- o There are two different types of points on Motion Paths: **Control Points** & **Frame Points**.

Control Points

- o Control points are the locations along the Motion Path where basic motion changes occur—specifically, the object's position on the Stage.
- o These diamond-shaped points are larger than frame points.
- o Control points can be edited like anchor points in Illustrator.
  - Use the Subselection tool (hollow arrow tool; A) in conjunction with the **Option** key to select a control point, revealing its direction handles and direction points.
  - Use the **Convert Anchor Point** tool (Shift-C) to reveal direction points and handles.

Frame Points

- o Frame points are the small dots along the Motion Path.
- o Each point represents a frame from the master Timeline.
- o These points are not directly editable in the Stage or Timeline.