More on Movie Clip Control

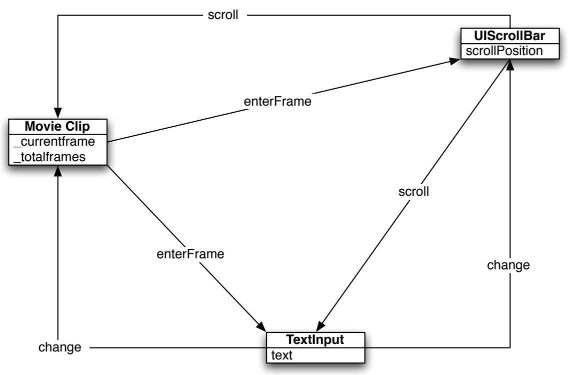
- The following notes add a few more tips on controlling movie clips in Flash
- To recap, the idea with video is to:
  - Import it into the library
  - Add it (with all of its frames) to a movie clip symbol
  - Drag the movie clip symbol to the stage and name it
  - Use ActionScript to make buttons invoke movie clip methods for playback

- In addition to just playing and pausing, a quick scan of the other things a movie clip can do include:
  - Frame-by-frame — use *prevFrame()* and *nextFrame()* to move one frame at a time
  - Frame properties — *_totalframes* tells you how many frames are in the movie clip, while *_currentframe* tells you which frame is currently visible
- We can use *_totalframes* and *_currentframe* to implement an even finer level of control, in conjunction with additional built-in Flash components — in this example, we'll use a UIScrollBar and a TextInput to implement jump-to-any-frame functionality
  - You'll find these widgets in the Components panel

Setting Up Direct Frame Access

- Here's the idea: by changing the *_currentframe* property of a movie clip, we can make it display any frame we choose; the acceptable range for *_currentframe* goes from 1 to *_totalframes*
- UIScrollBar is a convenient way to drag across a range of values; strictly speaking, it isn't meant for movie clip control, but it works, and what matters is the principle behind how we set everything up
- As an added bonus, we'll have a TextInput field display/change the current frame numerically

- This is what we do:
  - Set up and name all three parts
  - Give the UIScrollBar the correct minimum and maximum values (1 to *_totalframes*)
  - Use ActionScript such that: (a) when the UIScrollBar changes value, it updates the movie clip *_currentframe* and the TextInput's *text*; (b) when the TextInput's *text* changes, it updates *_currentframe* and the UIScrollBar's *scrollPosition*; and (c) when the movie clip displays a new frame (e.g., during playback), it updates *scrollPosition* and *text* in the other components
- This is a classic case of MVC, many times over: the widgets are the views, their properties are the models, and the arrows represent the controller



Script Specifics

- The ActionScript fragment shown below illustrates the setup, assuming:
  - The movie clip is named *my_mc*
  - The UIScrollBar is called *player_scroll*
  - The TextInput is called *frameNumber*
- The script also illustrates a new way to handle events: create a new object, assign functions to that object corresponding to an event that you want to handle, then "inform" the component about this object

```
/**
 * This ActionScript should go in the first frame of the Actions layer
 * for the scene containing the movie clip you want to play.
 */

// Stop the movie clip.
my_mc.stop();

// Set up the UIScrollBar.
player_scroll.setScrollProperties(10, 1, my_mc._totalframes);

// Create the controller.
var playerController = new Object();

// Assign the scroll event function.
playerController.scroll = function(eventObject) {
        my_mc.gotoAndStop(player_scroll.scrollPosition);
        frameNumber.text = player_scroll.scrollPosition;
};

// Assign the text input change event function.
playerController.change = function(eventObject) {
        my_mc.gotoAndStop(frameNumber.text);
        player_scroll.scrollPosition = frameNumber.text;
};

// "Connect" the components to the controller.
player_scroll.addEventListener("scroll", playerController);
frameNumber.addEventListener("change", playerController);

// Assign a function to handle changes to the current frame ("enterFrame").
my_mc.onEnterFrame = function() {
        player_scroll.scrollPosition = my_mc._currentframe;
        frameNumber.text = my_mc._currentframe;
};
```