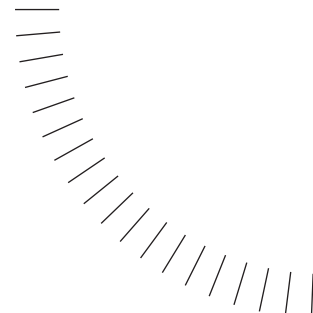


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Using Included Behaviors

Behaviors are pre-written Lingo scripts that provide interactivity and interesting effects that would be difficult to create on your own, such as making a sprite follow the cursor or creating sprites that can be thrown across the Stage. Other behaviors provide control over properties of specific types of media, such as the scale or quality of a Flash movie, the formatting of numbers, or the playback of a QuickTime movie.

The following descriptions provide a basic introduction to the capabilities of each behavior. See the description of each behavior in the Behavior inspector to learn more about specific parameters, including the types of cast members that behavior can be used with. For instructions on attaching behaviors and using the Behavior inspector, see Director Help.

For information on the Streaming behavior library, see the “About streaming with the Score and behaviors,” in Director Help.

Animation behaviors

The behaviors in the Animation library make sprites move in ways that would be difficult or impossible to achieve using conventional Score-based animation. The Animation library includes two sublibraries, Automatic and Interactive.

Automatic

The Automatic behaviors mostly function on their own once they are activated.

Color Cycling changes the forecolor property of a sprite over time between two values set in the parameters dialog box. Set color values as palette index colors (0-255) or RGB values. You can set the number of color cycles and the speed of the cycling.

Cycle Graphics cycles through a series of consecutive cast members. You define the first and last cast members in the range. All cast members appear with their registration points in the same location. The cast member must be consecutive.

Fade In/Out makes a sprite gradually appear or disappear. Choose how fast and how many times the fade occurs. You can also set the minimum and maximum fade values. Activate the behavior automatically in the sprite's first frame, by clicking the sprite, or by sending the sprite a message.

Random Movement and Rotation moves and rotates a sprite randomly within a specific area. Use the behavior parameters to define a boundary for the sprite's movement and the speed of movement and rotation. Two other settings determine the straightness of the path from point to point and how far the sprite rotates before reversing.

Rotate Continuously (Frame Based) rotates a sprite by a certain number of degrees per frame.

Rotate Continuously (Time Based) rotates a sprite by a certain number of degrees per second.

Rotate to Follow Path makes a sprite rotate so that it always points in the direction it's moving. The behavior maintains the same rotation angle relative to the sprite's path. You can change the sprite's initial rotation angle.

Rotation (Frame Based) rotates a sprite through a given angle over a given number of frames. A positive angle rotates a sprite clockwise; a negative angle rotates a sprite counterclockwise. An angle greater than 360° results in more than one complete rotation.

Rotation (Time Based) rotates a sprite through a given angle over a given time. A positive angle rotates a sprite clockwise; a negative angle rotates a sprite counterclockwise. An angles greater than 360° results in more than one complete rotation.

Scale and Clip changes the size of a Flash, QuickTime, or vector-shape sprite over a number of frames or over a given time period. You can set a start and finish size, or choose to scale to or from the current size of the sprite. The image is clipped if you scale to more than 100%.

Slide In/Out makes sprites move in or out from the boundaries of the Stage. This behavior is useful for presentations. Specify whether the sprite should first appear at maximum (slide in) or minimum (slide out) values, when the sliding should start, the minimum and maximum slide values, the number of times the sprite should slide, and how fast the sprite should move.

Sway rotates a sprite first one way and then the other by a given angle per frame for a given number of frames. You can set the number of degrees to rotate in each frame, the number of frames to move in each direction, initial rotation angle, and whether the sway starts clockwise or counterclockwise.

Waft makes a sprite rise up the screen like a bubble, rotating first one way and then the other and vibrating horizontally as it rises.

Zoom In/Out makes a sprite smaller or larger over time. You can activate the zoom automatically in the first frame, by clicking the sprite, or by sending the sprite a message. You can set up an endless loop, or set the zoom to occur only once.

Interactive

The Interactive behaviors require some type of input from the user.

Avoid Mouse moves the current sprite away from the pointer. You can determine the speed of the tracking, and the distance between pointer and the center of the sprite. You can make the behavior start automatically in the first frame of the sprite, or when the behavior receives a message. The default setting for the behavior keeps the sprite from moving off of the Stage.

Avoid Sprite moves the current sprite away from another sprite. You define which sprite the current sprite should avoid, how far away it should stay, and how fast the sprite moves. You can make the behavior start automatically in the first frame of the sprite, or when it receives a message. The default setting for the behavior keeps the sprite from moving off of the Stage.

Collision Detection responds when the current sprite intersects other sprites. When a collision is detected a message is broadcast. In order to make use of the collision detection, you need to write a handler that responds when it receives the collision message.

Constrain to Line creates a slider constrained to a straight line. Use the behavior parameters to determine the direction the slider may be dragged. You can select a direction and a distance the slider can move, or choose a point and a coordinate for the sprite to move toward. The behavior broadcasts its current setting to other handlers.

Constrain to Sprite confines a smaller sprite to the boundaries of a larger sprite. You can make the constrained sprite draggable within the confines of the other sprite.

Drag and Toss makes a sprite continue moving in the direction it is being dragged after the mouse button is released. You must attach the Vector Motion behavior to a sprite before attaching Drag and Toss.

Drag Quad Points Changes a sprite so that it can be stretched and bent out of shape. With Drag Quad Point attached to a sprite, you can click anywhere on the sprite and drag to make the corner of the sprite nearest the pointer follow the movement of the mouse. You can also restore the sprite's original shape and position.

Drag to Rotate lets you make a sprite draggable and to rotatable around its registration point.

Drag to Scale changes a sprite so that you can drag to scale it with the mouse while the movie plays.

Drag to Stretch and Flip lets you make a sprite stretchable vertically or horizontally and flip it at the horizontal and vertical axes to create the appearance of a simple 3D rotation. You can also specify a key combination in the to restore the sprite to its original size.

Draggable Makes a sprite draggable on the Stage while the movie plays.

Follow Sprite moves a sprite toward another sprite's position. You define which sprite the current sprite should follow, how fast the sprite moves, and whether the behavior starts working as soon as the sprite appears, or when the behavior receives a message. The default setting for the behavior keeps the sprite from moving off of the Stage.

Move, Rotate, and Scale assigns rotation and scaling control to selected keys. Attach the behavior to any sprite that can be scaled or rotated. If no modifier keys are pressed, clicking on the sprite and dragging moves the sprite.

Multiple Sprite Drag makes a group of sprites draggable as a single object. To create a group of sprites, attach this behavior to each, and then assign the same name to the Drag Group parameter in the Parameters dialog. You can assign a single sprite to multiple groups to make it move when any one of the sprites in any of the groups is moved.

Rollover Cursor Change replaces the cursor with a specified cast member when the mouse rolls over the current sprite. You can specify a built-in cursor, a single cast member, or an animated cursor.

Rollover Member Change replaces the sprite's cast member when the mouse rolls over the sprite.

Snap to Grid defines an invisible grid that aligns the current sprite. When the behavior is active, clicking the sprite aligns it to the specified point on the grid. Each sprite with this behavior attached may have a different grid and a different point to which it snaps. You can also apply the behavior to a group of sprites so that each of them uses the same parameters. You can use messages to reset parameters or enable or disable the behavior while the movie plays.

Sprite Track Mouse makes a sprite move so that it is always under the pointer. The sprite's registration point appears under the hotspot of the pointer.

Turn to Fixed Point makes a sprite always turn to face a given point on the Stage. This behavior works only with cast member types that can be rotated and assumes that the sprite points left to right when its rotation angle is 0.

Turn Toward Mouse makes a sprite face, or turn away from, the pointer, even if the sprite is moving. The behavior assumes the sprite is facing to the right.

Turn Toward Sprite Makes a sprite face, or turn away from, any other sprite, even if one or both sprites are moving. The behavior assumes the sprite is facing to the right.

Vector Motion Moves a sprite in a straight line. Use Vector Motion with the Drag and Toss, and Collision behaviors to change the motion of a Sprite.

Controls behaviors

The behaviors in the Controls library create useful elements for the user interface of your movies.

Analog Clock

This behavior makes a group of three vector-shape sprites function as the hands of a clock. Place each sprite on the Stage in its 12 o'clock position and then attach the behavior. You specify whether each shape acts as the second, minute, or hour hand. The behavior rotates each sprite around its base when the movie plays to indicate the current time according to the system clock. The behavior will alter a sprite's registration point if necessary.

Display Text

This behavior displays a string in a field or text sprite. This behavior waits for another behavior or a Lingo command to activate. Use it with the ToolTip behaviors or with your own custom behaviors. You can make the text sprite invisible until requested by another behavior and specify its location. You can choose between two display types: tool tip and status bar.

Draw Connector

This behavior enables the user to draw straight lines with the mouse. You can also control this behavior with Lingo calls from other sprites. The default setting starts drawing a line on mouse down and completes the line on mouse up.

Dropdown List

This behavior changes a field member into a pop-up menu. You can set parameters so that a list displays in the menu and commands are executed based on the user's menu item selection.

Jump behaviors

These behaviors work together to provide navigation-control buttons that move back and forth between markers in the current movie or a different movie. Attach these behaviors to buttons you have created with other behaviors. Each of the behaviors works with the others by referring to a global navigation list that stores visited markers.

Jump to Marker sends the playback head to a chosen marker in the same movie and adds the marker to a navigation list that is referred to by all the Jump behaviors. (Use **Jump to Movie** to move to a marker in a different movie.)

Jump to Movie sends the playback head to any other movie in the same folder (or in a subfolder of this folder) and adds the destination to the navigation list. Enter a marker name as a parameter to move to a point other than the first frame in the new movie. (Use **Jump to Marker** to move to a marker in the current movie.)

Jump Back Button sends the playback head to previously visited markers in all movies, moving back through the navigation list stored by the other Jump behaviors.

Jump Forward Button sends the playback head through the path of visited markers previously stored in the navigation list by the other Jump behaviors.

Multistate Button

This behavior switches a sprite between off and on states. You can define a different cast member that appears when the sprite is clicked, when the pointer rolls over the sprite, or when the pointer is elsewhere. To create a group of buttons that function as radio buttons, give each button in a group the same ID.

Push Button

This behavior sets the cast member of a sprite based on the state of the mouse (elsewhere, rollover, mouseDown, mouseUp). This creates a button that can initiate actions in other sprites.

Radio Button Group

This behavior controls a group of radio button sprites so that turning on any button turns off the others. Use radio button cast members created with the Tool palette, or use any graphic cast member.

Source Status

This behavior, working with the Display Text behavior, displays the file name and path of a linked member when the pointer rolls over a sprite. Attach Source Status to a sprite that displays a linked cast member. Attach Display Text to a text or field sprite that displays the text.

Tooltip

This behavior, working with the Display Text behavior, displays a single-line tooltip when the pointer rolls over a sprite. Attach the Tooltip behavior to the sprite that you want to trigger the tooltip. Attach the Display Text behavior to the text or field sprite that will serve as the tooltip. Apply any text formatting for the tooltip to this sprite. Use the Display Text behavior to make the tooltip appear at a fixed location or at the location requested by the Tooltip behavior. You can also make the tooltip disappear when it is inactive or remains on the Stage.

Internet behaviors

The behaviors in the Internet libraries control Internet-related functions. The Internet > Forms library contains behaviors for controlling CGI forms. The behaviors in Internet > Streaming control a movie for optimal streaming. See “About streaming with the Score and behaviors” in Director Help.

Media

The behaviors in the Media libraries control, alter, or otherwise manipulate specific types of media. There are three Media behavior libraries: Flash, QuickTime, and Sound

Flash

Behaviors in the Flash library work only with sprites containing Flash or vector-shape cast members.

Set Click Modes determines how a Flash sprite reacts to mouse clicks and whether the mouse events are subsequently passed to Director. Default values are those of the cast member of the current sprite.

Set Playback Quality changes the playback quality for Flash and vector-shape sprites. The default values are the settings of the current sprite.

Set Scale, Origin, and View determines the scale, origin, and view for Flash and vector-shape sprites. The default values are the settings of the current sprite.

QuickTime

Behaviors in the QuickTime library work only with sprites containing QuickTime cast members.

QuickTime Control Button makes almost any sprite a control button for QuickTime video sprites. You can select the QuickTime sprite to control and the action the button will perform.

QuickTime Control Slider controls and responds to a QuickTime digital video sprite like a video scrub controller. Use in conjunction with the Constrain to Line behavior.

Sound

Behaviors in the Sound library work only with sound sprites.

Play Sound Member plays an internal sound cast member when the user clicks the sprite.

Play Sound File plays a linked sound file when the user clicks the sprite.

Sound Beep plays the system beep when the user clicks the sprite.

Navigation behaviors

The Navigation library includes behaviors that move the playback head, open new movies, pause the movie, and make the playback head return to previous locations.

Go Loop

This behavior moves the playback head back to the nearest marker when the user clicks the sprite.

Go Next Button

This behavior moves the playback head to the next marker when the user clicks the sprite.

Go Previous Button

This behavior moves the playback head to the previous marker when the user clicks on the sprite.

Go to Frame X Button

This behavior moves the playback head to the specified frame when the user clicks the sprite.

Go to URL

This behavior opens the specified URL in a browser when the user clicks the sprite.

Hold on Current Frame

This behavior loops the playback head on the current frame until another behavior sends the playback head to a new location.

Loop for X Seconds

This behavior plays the current frame for the specified number of seconds.

Play Done

This behavior returns the playback head to where the most recent Play command was issued. Attached to a sprite, the behavior moves the playback head when the user clicks the sprite (on `mouseUp`). Attached to a frame, the behavior moves the playback head when the playback head leaves the current frame (on `exitFrame`).

Play Frame X

This behavior moves the playback head to the specified location. Attached to a sprite, the behavior moves the playback head when the user clicks the sprite (on `mouseUp`). Attached to a frame, the behavior moves the playback head when the playback head leaves the current frame (on `exitFrame`). Use the Play Done behavior to end the sequence and return the playback head to the frame that the playback head was in before jumping to the current sequence.

Play Movie X

This behavior opens and begins playing a new movie at frame 1. Attached to a sprite, the behavior opens a new movie when the user clicks the sprite (on mouseUp). Attached to a frame, the behavior opens a new movie when the playback head leaves the current frame (on exitFrame). Use the Play Done behavior to end the sequence and return the playback head to the current frame.

Text

The behaviors in the Text library control and format text.

Add Commas to Numbers

This behavior inserts commas into long numbers to make them easier to read. It can display values with up to 14 significant figures. The number may be edited by the user, but only numbers and the decimal point character (.) can be entered (no commas or spaces).

Calendar

This behavior creates a calendar using a text cast member. The behavior works for any date between the year 1901 and 2099. If you turn on the Enable Hyperlinks to Other Months option, the user can step through the calendar by clicking < and > (previous and next). To step through months or years, first click the appropriate date item in the heading.

Countdown Timer

This behavior changes a text or field sprite to make it count backward to 0 from the time set in the properties dialog box. The clock can count down a period of up to 24 days. It can display days, hours, minutes, seconds, and hundredths of a second. When the timer runs out, the behavior can send a global handler or a message to all sprites, depending on how you set parameters. The behavior uses the font selected for the text or field cast member. The behavior can also broadcast the current time to other sprites. The countdown can start in the first frame in which the sprite appears, or it can wait for a message to begin.

Custom Scroll Bar

This behavior creates dynamic scroll bars with your own artwork. Place four graphic sprites on the Stage in proximity to a text sprite. Attach the behavior to each of the sprites and specify whether it should server as an up arrow, down arrow, dragger, or backing bar to scroll the text sprite. You can also use two additional cast members to indicate that the arrow buttons have been pressed: up arrow (pressed state), and down arrow (pressed state).

Filter Input Characters

This behavior restricts the characters that can be entered in a editable text or field sprite. Invalid characters cause a system beep and do not appear. Enter the allowed characters, including the space character, in the Parameters dialog box. The behavior can check for and correct errors in case as well as characters. The behavior can handle all standard accented characters if the font you are using can display them.

Force Case

This behavior converts all editable text or field cast member input to upper- or lowercase characters. This behavior is not suitable for accented letters such as â, é, ï, ò, ù.

Format Numbers

This behavior displays numbers and monetary values in a variety of formats. Users can edit the number without losing the format. The chosen format is applied when the user tabs to the next field or clicks elsewhere.

Get Net Text

This behavior retrieves text or HTML data from an Internet server. The behavior can interpret the retrieved data as standard text or as HTML code (in text sprites only).

Hypertext Display Status

This behavior, working with the Display Text behavior, displays the destination URL when the pointer rolls over a hyperlink. Attach Hypertext Display Status to a text or field sprite containing a hyperlink. Attach Display Text to the text or field sprite that will serve as the tooltip.

Hypertext Go to Marker

This behavior sends the playback head to the specified marker when the hypertext is clicked. Use the Text inspector first to identify the hypertext.

Hypertext Go to Net Page

This behavior operates on hyperlink data. It will interpret the data string depending on what is at the beginning of the string.

Password

This behavior changes a field or text sprite into a password entry field. The cast member's font should be set to Arial or Helvetica. The password field displays bullet characters instead of the letters typed, and matches the letters typed with the valid password set in the parameters dialog box. The behavior can check for valid characters after every character entered or only when the Return or Enter key is pressed. You define handlers to execute when the password is determined to be valid or invalid.

Ticker Tape Text

This behavior scrolls the contents of a field or text cast member horizontally in a single line.

Typewriter Effect

This behavior makes a field or text sprite display as if it was being typed onto the screen. Attach this behavior to a text or field sprite containing all the text you want to display. The type can begin to appear automatically in the first frame in which the sprite appears, or it can be set to wait for a message. You can set the amount of time to wait between characters and play a sound for each letter.