

## **Quick Start Guide:**

# **ChemSense Animator Version 3.0.7**

January 5, 2005

Comments/Questions/Bug Report?  
E-mail: [chemsense-contact@ctl.sri.com](mailto:chemsense-contact@ctl.sri.com)

## **Background**

The ChemSense Animator is a simple drawing and animation tool that lets you create storyboard animations of chemical processes. This tool is the most popular tool in the suite of tools offered in the collaborative ChemSense Studio Client. Due to this popularity, it has also been pulled out as a separate, stand-alone application.

This introductory guide covers the features of the drawing and the animation tool.


## **Drawing Features**

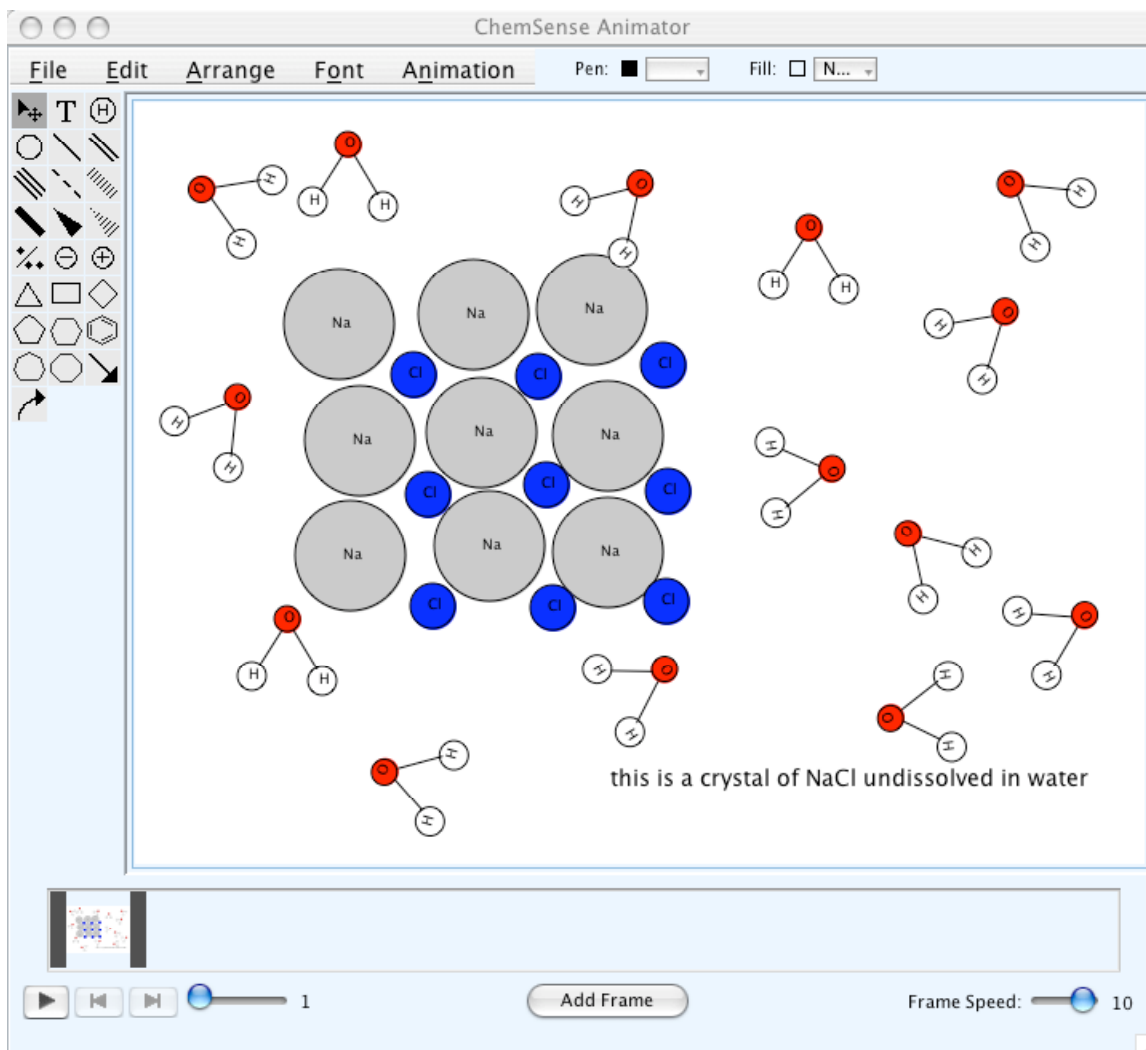
The canvas and drawing tools support the drawing of two-dimensional structural representations of chemical phenomena (see Figure 1).

The drawing area consists of a toolbar of shapes (left), an canvas drawing area (right), various color tools for the outline and fill color of shapes (top), and a menu with options for duplicating, moving, layering, grouping, and otherwise modifying selected shapes. Multiple levels of undo/redo are also supported.

ChemSense drawings are saved as XML to your local file system, and can also be exported as a JPEG or PNG image for the Web. Drawings saved as XML also can later be opened.

To draw a shape, select a tool and click on the white canvas to "stamp" the shape. Some tools, like the bond/line tool and arrow tool, can be dragged before you release the mouse (e.g., to draw a line in the desired direction).

The selection tool  (top left) can be used to select a shape or group of shapes on the canvas. When a shape is selected, a rectangular border is drawn around it to indicate the selection. Once a shape or group of shapes is selected, you can move, rotate, resize, color, relayer, nudge, duplicate, or group them.



**Figure 1.** Creating a drawing of salt in water using the drawing canvas and tools.

To move a shape, click on it and drag it to a new position. To just nudge it a little in one direction, select it and press the arrow keys, or select **Nudge** from the **Arrange** menu.

To bring a shape forward or move it behind another shape, select it and use the move layer options in the **Arrange** menu.

To resize a shape, select the shape, look for a tiny white square that appears in the lower-right corner, and drag this corner to a new position.

To rotate a shape, select the shape, look for a tiny yellow circle that appears in the upper-right corner, and drag this circle to a new position.

To change the outline color of a shape, select the **Pen** button, select the shape, and click on a new color in the color bar. To change the fill color, select **Fill** instead of **Pen**, and repeat these steps.

To duplicate a shape, select it and choose **Duplicate** from the **Edit** menu. Note that many menu item options have keyboard shortcuts, as specified on the menu item.

The Text tool **T** accepts and displays multiple lines of text (press the **Enter** or **Return** key when editing text to begin a new line). It also uses a few simple rules to parse the text that you enter to display any subscripts and superscripts on chemical formulas. For example, if you type:

NH4 + Cl-

in the text edit window and then click on the canvas, the following will be displayed:

NH<sub>4</sub> + Cl<sup>-</sup>

That is, the 4 will be subscripted and the '-' will be superscripted. Note that you must type a space before and after the '+' if you *do not* want it to be interpreted as a superscript. A plus ('+') or minus ('-') immediately following a letter or number (no space) will be automatically superscripted, and a number immediately following a letter (no space) will automatically be subscripted. Anything following a space or equals sign ('=') is always displayed in normal type, neither subscripted nor superscripted.

If you want to force a word to be superscripted, type a '^' character before it; if you want to force it to be subscripted, type a '|' character before it. For example, if you enter:

This should be ^superscripted  
This should be |subscripted

Then when you click on the canvas you will see:

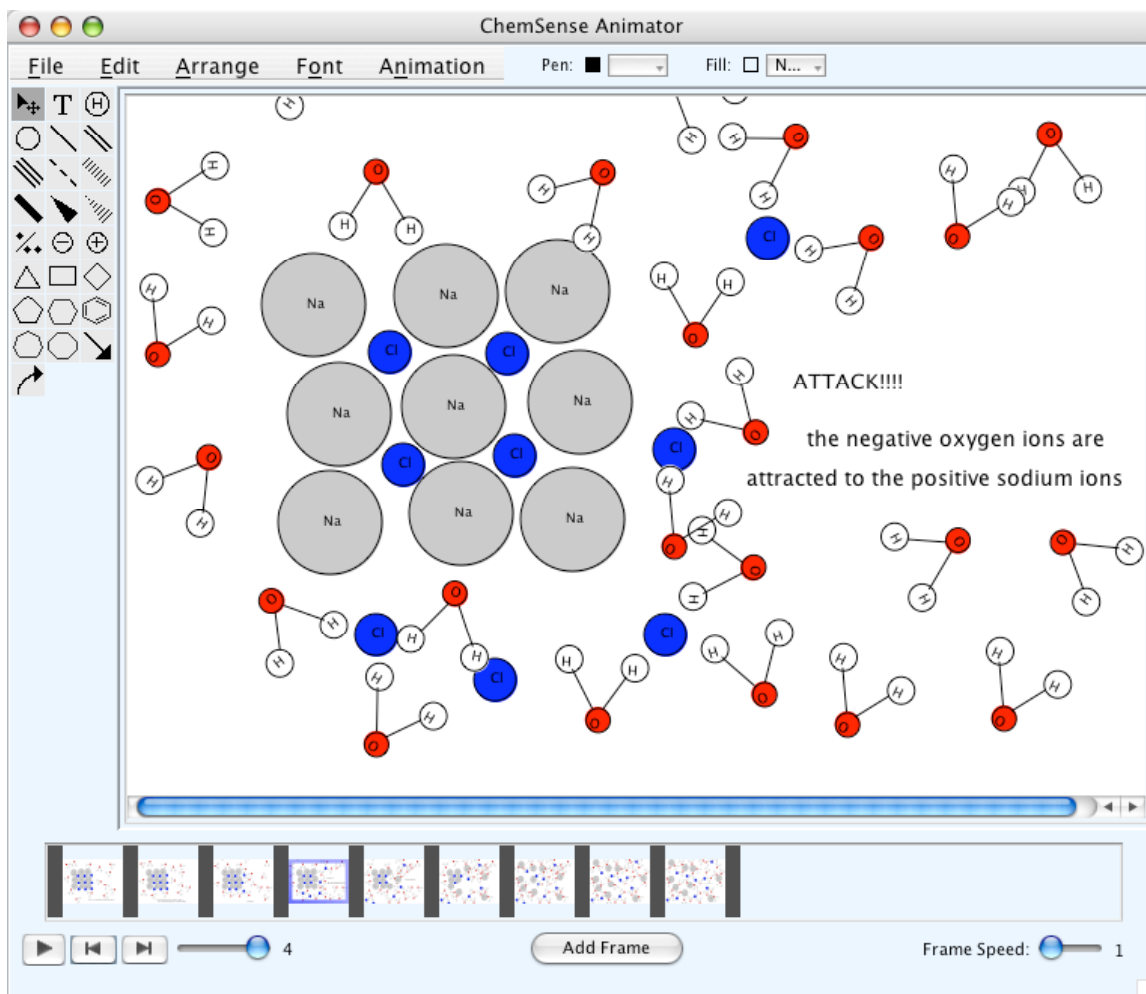
This should be <sup>superscripted</sup>  
This should be <sub>subscripted</sub>

Finally, to edit existing text, just double-click on the text and enter your changes in the dialog that appears. To later change the font size, style, or family, select the text shape and use the **Font** menu to choose new values.

## Animation Features



The Animation features let you create multiple frames of a drawing to create a storyboard animation (see Figure 2). The animation window is divided into two parts:

1. The top part of the Animator window contains a drawing area where you can draw and edit individual frames.
2. The bottom part of the window contains the animator controls. The controls consists of a filmstrip to interact with the frames, sliders and buttons (immediately below the filmstrip) to step through, play, and add frames, and a duration slider to specify the amount of time spent on the selected frame.




**Figure 2.** Animating the process of salt as it dissolves in water by using the animation and draw features to create multiple frames.

To create an animation, first make a drawing of the initial frame. To create a second frame, press the **Add Frame** button. This will copy the contents of the current frame into a new frame, which you can then edit to change. Continue in this fashion for each new frame you want to create.

To scroll the film, move the slider just below the film strip, or step forward and backward one frame at a time using step forward  and step backward  buttons. You can mouse over a frame on the film strip to see the frame number.

To edit an existing frame, just click on the frame in the film strip (scroll the film if necessary) and make your edits to that frame.

To delete a frame, select it and choose **Delete Selected Frame** from the **Animation** menu. To delete all frames, choose **Delete All Frames** from the **Animation** menu. To change the duration of a frame, select the frame and adjust the **Frame Speed** bar (far right, below the film strip).

To play an animation, press the play  button on the far left. If you want the animation to loop over and over again when it plays, select **Loop Animation** in the **Animation** menu. You can hide the film strip by unselecting **Show Film Strip** in the **Animation** menu.

To export an animation for use outside of the ChemSense Studio (e.g., in a Web page), select **Export Animation to Animated GIF**<sup>1</sup> or **Export Animation to Quicktime**<sup>2</sup> in the File menu. To play the exported animation, just open it with a web browser or with Quicktime. You can download Quicktime for free on the Apple web site.

The **File** menu also lets you save and open animations as XML. Use this to save animations you have created.

---

<sup>1</sup> On Mac OS X, there appears to be an incompatibility in the current Java implementation (1.4.2) when producing an animated GIF, so Mac OS X users should use Quicktime export for the time being.

<sup>2</sup> On Microsoft Windows, you must first do a custom install of Quicktime be able to export animations to Quicktime. This custom installation is described in the README file that comes along with the installation. In brief, you have to install Java (if it's not already installed), download and launch the Quicktime installer, choose Custom for Installation type, and check Quicktime Essentials (1st item, should be selected by default), Quicktime Internet Extras (2nd item), and QuickTime for Java (2nd to last item; scroll down to it). If you are using Mac OS X, you don't need to do a custom installation; Quicktime and Java are already installed on Mac OS X, and will just work.