

## CSE 3302 Lab Assignment 3

Due April 17, 2014

### Goals:

Understanding of event-driven programming and prototypal inheritance in JavaScript.

### Requirements:

1. Modify the solution to Lab 2 from Summer 2013 for images as a third box type “picture”.
  - a. “Picture” will be a fifth Mode Option. The URL (or local file name) for a picture’s image file should be obtained through a `textarea`. The user is expected to enter the URL/name before dragging the mouse to indicate the placement of pictures.
  - b. New pictures must observe the containment hierarchy.
  - c. Pictures are always leaves in the containment hierarchy. No box may be nested inside a picture.
  - d. The Stroke Color and Stroke Thickness are relevant for a picture, but the Fill Color is not. You must maintain inheritance principles from the original code. For example, if a picture is not contained in another box, then the Stroke Color and Thickness should not be inherited.
  - e. The aspect ratio (width to height) of an image must be preserved so that a rendered image is never stretched. (See `seating.js` from Notes 02 for details of the JS Image object.)
    1. The `mousedown` position to “originate” a picture is always a corner of the picture’s box, but which corner (e.g. NW, NE, SE, or SW) could change due to `mousemove`s.
    2. Scaling will be needed for the `mousemove`s that occur before the `mouseup` event occurs. The cursor must always be *on* the perimeter of the scaled box, never inside or outside.
    3. If scaling ever puts a corner of a box outside the canvas, then force a `mouseout`.
2. Email your code, as a zipped attachment, to `sourabh.bose@mavs.uta.edu` by 9:15 a.m. on April 17, 2014. (Sending `.js` files as ordinary attachments will be blocked by MavMail.)

### Getting Started:

1. Relevant files are at: <http://ranger.uta.edu/~weems/NOTES3302/LAB2SUM13/> and <http://ranger.uta.edu/~weems/NOTES3302/NEWMOTES/NOTES02/SEATING/>
2. Network issues for image files will be avoided during grading by caching and/or having files in a local directory.
3. Clicking on a picture while in “Selection” mode will not “cut” a fill color. Clicking on a picture while in “Set Properties” mode will only modify the Stroke Color and Thickness. In either mode, the gray X-box technique should also be used for pictures.