

CSE 3302 Lab Assignment 3

Due March 21, 2013

Goal:

Understanding of JavaScript and elementary event-driven programming.

Requirements:

1. Design an HTML/JavaScript application to maintain a set of rectilinear rectangles (“boxes”):
 - a. Your program will support two modes (selected by radio box): selection and drawing.
 - b. When in drawing mode, new boxes may be created using a “drag” to specify the diametrically opposed corners.
 1. Initially, there should be one box filling the entire canvas with no fill and a stroked blue perimeter of thickness 5.
 2. A new box may not contain or (partially) overlap with any existing box. In other words, a new box is a leaf in the containment hierarchy of boxes. The box filling the entire canvas is the root.
 3. The fill color (none, black, red, green, blue, orange, violet), stroke color (same options as fill), and stroke thickness (1, 2, 3, 4, 5) for a new box should be set from radio box settings.
 4. During the drag to specify a new box, a gray box with diagonals should be shown when the box is *illegal*. When *legal* (according to 1.b.2), the new box should be shown using the radio box settings. If a mouseup occurs while illegal, use `alert()`. A mouseout should simply abandon the new box.
 - c. When in selection mode, the only events processed are mousemoves. The mouse position is processed by highlighting the smallest containing box: no fill and a stroked gray perimeter, along with a gray “X” showing the diagonals.
2. Email your program to `mehra.nourozborazjany@mavs.uta.edu` by 10:45 a.m. on March 21, 2013.

Getting Started:

1. Your canvas should have gray gridlines with thickness 1 separated by 20 pixels.
2. Dimensions of the canvas (and your initial box) should be accessed from the html (e.g. `width` and `height`).
3. A later assignment will expand on this one.
4. The drawing order for the boxes is the same as the creation order.
5. Point location data structures (polygonal slab techniques) are not expected . . .
6. My html is on the webpage.