

CPSC 1045: Lab 10 Mouse Event Object

Introduction

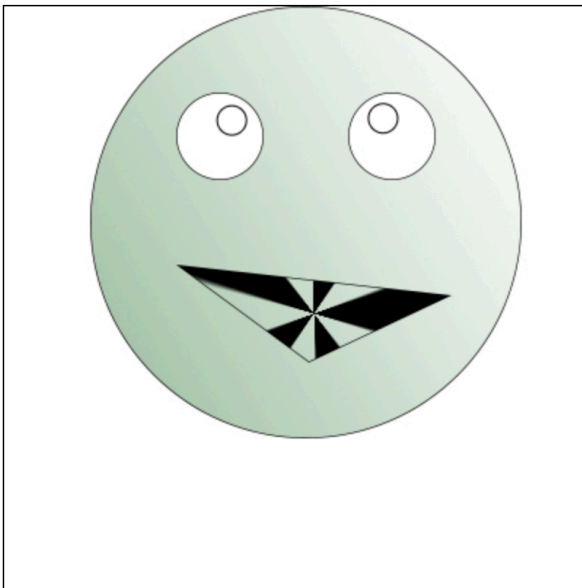
We can obtain information from event objects when an event occurs. In this lab you will use the mouse event to controls the location of the eyes for a drawing.

Activity:

For this lab you will need to download the starter project from D2L. You will need to modify the lab10.js file.

You will need to write the code necessary to draw the pupils of the eyes in such a way that it tracks the mouse cursor while it moves over the canvas element.

Lab 10: Cursor tracking

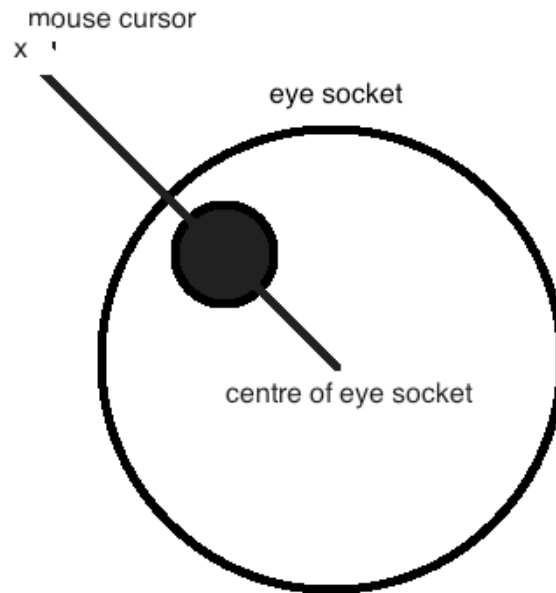


The centers of the eye sockets are listed in the table.

| | |
|------------------|-----------------|
| Left Eye Socket | {x: 147, y:90} |
| Right Eye Socket | { x: 267, y:90} |

The pupils are to be drawn such that the center of the eye socket, center of the pupil, and the tip of the mouse cursor are co-linear. The pupil should also remain in the eye socket.

For a single eye socket:



1. (x_c, y_c) is the center of the eye socket
2. (x_p, y_p) is the center of the pupil
3. (x_m, y_m) is the tip of the mouse cursor

To calculate the position for the center of the pupil so that it is collinear the following formulas can be used.

$$x_p = a(x_m - x_c) + x_c$$

$$y_p = a(y_m - y_c) + y_c$$

c = distance from the center of the eye socket

$$r = \sqrt{(x_m - x_c)^2 + (y_m - y_c)^2}$$

$$a = \frac{c}{r}$$

Submissions

- Zip all the files for the project and submit it to the dropbox.