User Interaction

In this exercise, we will look at user interaction with the HTML5 canvas.

Exercises

1. Open mouse.html and click on the canvas. You should see a red dot appear on the canvas.

2. Log the event variable to the console, and examine it. Change mouse.html to draw the circle at (event.clientX, event.clientY), rather than (50, 50).

3. Have a look at Mozilla's documentation on offsetTop and offsetLeft. Fix mouse.html so that the circle is drawn with its centre at the mouse cursor.

4. Open keyboard.html in your browser, with the JavaScript console open. Press various keys and examine the console output.

5. Using the code from Lab 2, create a new Paddle class which will draw a rectangle at a desired location (in a draw method) and a move method (in addition to the bouncing ball).

6. Have the movement of the Paddle be controlled by both the keyboard and the mouse. For the keyboard, the up/down arrows should move the paddle up and down. The paddle should also move to the y-coordinate of the mouse if the mouse is moved.

7. Instantiate a second paddle on the other side of the canvas and give key controls to move it

Advanced exercises

1. Add the advanced symbol from last week (instead of the bouncing ball).

2. Add other key combinations to control the speed to spin (angular velocity) of the symbol.

3. Give the object a downwards acceleration, so that it gets faster as it falls, and slower as it ascends. Also add a kinetic energy loss on each bounce (i.e. the ball will only bounce to 90% of the height from which it has been dropped).