IST 363

# Lab 07

## This Lab Covers

* JavaScript – Functions, Document Object Model, Selecting Elements, Changing Content and Styles, Handling Events

## Lab Corrections

No corrections this week. Woot!

## JavaScript 2

Watch the monster\_vs\_girl game run through video and then grab the zip file from blackboard to get started.

Every good program starts with an algorithm. Here are my thoughts on what needs to be done.

* Set up two variables that hold the shield power for the girl and monster
* Listen for a click event on the “throw fireball” button and have it start the game
* Once the button is clicked:
  + activate the animation
  + Calculate a random throwing power for the monster and the girl
  + Decrease the shield percentage by the random number you calculated
  + Update the shield power on the screen
  + Check to see if shield is 0 or below
    - If both monster and girl shields are < 0 say both lost
    - If only monster is < 0 say monster lost
    - If only girl is < 0 say girl lost

1. Setup variables  
   The JavaScript is at the bottom of the page. Your first task is to write two lines of code. They should set up variables to hold the shield strength for the monster and the girl at 100. Putting them at the top of the script (not inside a function) means that they will be global variables. They will hold their value as the game runs, and we can make changes to the value of these variable on different turns.
2. Event Listener  
   Add an event listener so that when the “throw fireball” button gets clicked, a function called playGame will run.   
     
   Let’s use this step to write the playGame function as well. It is a function that takes no parameters.
3. Task 1 – Animate Fireballs  
     
   We just wrote a playGame function. Let’s use it to run our animation. The first step is to call the animateFireball function from the playGame function. animateFireball is a function I wrote to turn the animate CSS class on and off. That makes it possible for the animation to run every time you press the button. You can read the comments in the animateFireball function to learn more about how it works.  
     
   In the styles at the top of the page, I’ve left @keyframes empty. Recall that we animated in week 2. Use your skills to make the fireballs move across the page at the players. Watch the video to refresh yourself on how the animation should function.   
     
   If everything went correctly in 1-3 your animation should work after you fill in the keyframes properties and press throw fireball.
4. Calculate throwing power  
     
   The next task is to calculate a throwing power for the girl and the monster. Use random numbers. I chose to decrease my shields by a number between 1-20 each time. Once you have a number for each player’s throw, write code to decrease their shield power by that amount.  
     
   Use the DOM and innerText to display the updated shield powers on the web page in the correct area.
5. It’s time to check to see if someone lost on this run of the playGame function. Write if else statement to check the shield powers to see if they are 0 or below. If both shields go below zero then they both lost.  
     
   Once you know if there was a loser, get rid of the button and print – girl won or monster won or they both lost.  
     
   Take one last check on the video to make sure yours is functioning like mine.