

# CPSC 332 Web Development

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## Homework 6 – JQuery – Themed Stopwatch

Individual, non-collaborative assignment

### Learner Objectives

At the conclusion of this programming assignment, participants should be able to:

- Demonstrate use of JQuery to manipulate the DOM and respond to user interaction.

### Prerequisites

Before starting this programming assignment, participants should:

- Have completed up to (and including) chapter 9 in the class zyBook
- Be familiar with creating HTML web pages using HTML, CSS, and JavaScript

### Overview and Requirements

For this assignment, you will be modifying an existing stopwatch program created in HTML and JavaScript to use JQuery. Using JQuery, you will also add additional interactive changes and styling to the stopwatch.

### Submitting Assignments

Submitting your assignment requires submitting in two steps:

1. Submit your assignment to the appropriate GitHub Classroom repository (commit to the repository!). You'll find the invitation URL as part of this assignment on the Canvas assignment page.
2. *Submit two URLs*
  - i. Submit your GitHub Classroom repository URL to Canvas (Line 1).
  - ii. *Submit your GitHub Pages URL to Canvas (Line 2)*
    - i. *Enable Pages via the settings in the GitHub Classroom repository created as part of this assignment.*

**Note:** By submitting your code to be graded, you are stating that your submission does not violate the CPSC 332 Academic Integrity Policy outlined in the syllabus.

## Assignment Tasks

1. Your task is to modify a JavaScript stopwatch application to use JQuery. You will be provided starter code that you must work from as a starting point.
  - a. Accept the assignment (see the Canvas assignment) and pull the starter code to your local repository as a starting point.
2. **You should start the assignment from the provided starter code and push all commits. Use the provided starter file as your base file.**
3. NOTE: if you push this project to your personal/public GitHub (or other) repository, make sure to cite the original source code (see the starter code README file with the source URL).

### 1. Modify the stopwatch application to use JQuery for all standard JavaScript HTML interactions.

**Git commit requirements** – make a commit after completing step 4. **Add an appropriate description/comment.**

1. First you will need to modify the 5 JavaScript DOM selection methods (i.e. “element” selections) to use the JQuery `$()` function with selector strings instead.
2. Next, there are 5 JavaScript variables that you will need to convert to hold JQuery objects. Rename these 5 variables to match the JQuery best practices naming convention for JQuery objects. These 5 variables are referenced 10 times in the code, make sure to update their references to now use the JQuery-named variable. Note that these changes include updating the event handling code.
3. Next, there are
4. There are 7 JavaScript `properties` accessed and modified in the starter code. You will need to convert these to use the equivalent JQuery `method()` instead.
5. Finally, you will want to use the JQuery `.ready()` function as detailed in the zyBook.
6. **Commit this to your local repository and push the changes to the GitHub Classroom repository. Add an appropriate description/comment.**

### 2. Additions to the stopwatch application (using JQuery, not standard JavaScript or CSS).

**Git commit requirements** – make a commit after completing each of the following steps: 1, 5, 6, 7, and as you style in step 8 as you feel appropriate. **Add an appropriate description/comment.**

1. Add an `id` to the timer paragraph tag named “timer” and then, using JQuery (NOT by editing the HTML element tag), add a class named “timer-background” to that same paragraph tag.
  - a. Style the paragraph container as desired to match your stopwatch theme
  - b. **Git commit**
2. Set the timer background color to grey (or a reasonable “stopped” color to match your theme)

00:00

3. When running, the timer should be a different color (example is stoplight green: `rgb(51, 165, 50)`)

01:82

4. When the pause button is pressed, the timer should be a third color (example is stoplight red: `rgb(251, 18, 47)`)
  - a. When the timer reads 00:00 stop should not change the color



5. When the timer is reset, it should revert to the default color.
  - a. **Git commit**
6. **Using JQuery (not by modifying the HTML style section of your source code)**, add a class to each of the three buttons, then style the buttons using a single object literal. e.g.:



- a. **Git commit**
7. Add an animation for the timer background. It should adjust the background opacity between 0.8 and 1.0 continuously while the timer is running. It should go back to 1.0 when stopped or reset.
  - a. *Hint:* One method to achieve this is by using an interval timer and 2 animations to achieve a continuous effect.
  - b. You will also need to use JQuery to reset opacity when stop or reset is pressed.
  - c. **Git commit**
8. Style the stopwatch using JQuery. At a minimum you must change
  - a. Outer border
  - b. Inner background
  - c. Font/text styling

*Hint: create your themed style in CSS and then convert the css to be applied using JQuery (don't forget to remove the css!).*



Example styled stopwatch

## Grading Guidelines

This assignment is worth 100 points. Your assignment will be evaluated based on a completeness of your submission and adherence to the web page requirements. For this assessment, the **emphasis is on your use of JQuery features** throughout your web page. We will grade according to the following criteria:

- 30 pts for Converting starter code from JS to JQuery
  - 5 pts for modifying the HTML element selectors to use the JQuery **\$()** function to select DOM elements
  - 15 pts for modifying variables to use the JQuery naming convention for JQuery objects: **\$variableName**
  - 7 pts for converting the JS content method to use the JQuery method
  - 3 pts for using the JQuery **.ready()** function properly
- 35 pts for JQuery additions
  - 2 pts for adding a class using JQuery in #1
  - 6 pts for setting background colors appropriately in #2-4
  - 4 pts for handling conditions in #4a and #5
  - 3 pts for adding a class using JQuery in #6
  - 8 pts for styling buttons using JQuery and an object literal in #6
  - 8 pts for the continuous background animation effect in #7
  - 4 pts for using JQuery to style your stopwatch as directed in #8
- 35 pts Misc.
  - 10 pts for git commit history for modifications and step 1, 5, 6, 7
  - 4 pts for use of external CSS and JavaScript files
  - 3 pts for a block **comment** at the top of the page with your name, the class name, assignment name, and last modified date.
  - 3 pts for passing the **validator** website check with no errors or warnings:  
<https://validator.w3.org/>
  - 5 pts for your GitHub Pages URL **loading successfully** (**You are responsible for verifying this**)
  - 10 pts for adhering to directions and following formatting / “best practices” as discussed in the course zyBook section 3.7 and throughout the zyBook