Exam 1 – Coding part

Name: _____ Section: _____

For this part, you may use your computer and the internet for general searching on Bootstrap, jQuery, or web development. However for both parts of the exam, ***you must not communicate with anyone*** except your instructors and their assistants, if any. In particular:

- You must not talk with anyone else or exchange information with them during this exam.
- ***You must NOT use email****, chat* or the like during this exam. **Close all such applications (except Teams) before you start the exam.**

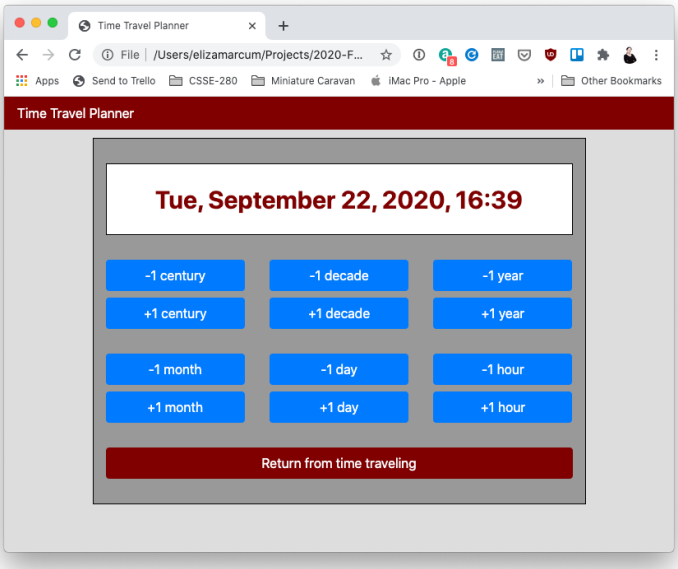
	Points Earned	Comments
Layout	___ / 20	
CSS	___ / 20	
JavaScript	___ / 25	
Total	___ / 65	

In this coding challenge you will make a mini dashboard for a Time Travel Planner. You should start this project from the **basic** template. For full credit, the app you make should match the pictures exactly at all sizes (see attached color images).

The functionality of the Time Travel Planner should be as follows:

- Has a central area for viewing your current time destination
- The current time destination starts out as the current local time. The time when these screenshots were taken Tuesday September 22nd 2020 at 4:39PM
- Has buttons for traveling forwards and backwards by century, decade, year, month, day, and hour. Each button will adjust the current time destination accordingly. e.g. Pressing "+1 century" would travel us to "Sunday, September 22nd 2120 at 4:39PM"
- Has a special button "Return from time traveling" for resetting the current time destination to the current local time

An example image (more images are below!):



Edge cases:

- There are multiple ways to define the length of a month (e.g. 4 weeks, etc.). For our purposes a month is one calendar month. For example:
  - 1 month after 8/25/2020 is 9/25/2020
  - 1 month after 02/14/2020 is 03/14/2020

Hints:

- Consult the MDN documentation for Date and/or Section 7.5 of the ZyBooks reading!
  - *cough* Table 7.5.1 *cough*
- You **do not** need to do any date math manually. The setter methods for Date accept negative arguments and interpret them predictably!
- Use `toLocaleTimeString` to format your date.
- The correct options to pass to toLocaleTimeString are:
  - `const options = { weekday: 'short', year: 'numeric', month: 'long', day: 'numeric', hour12: false, hour: '2-digit', minute:'2-digit'};`

- Start by implementing just the year functionality shown (+/- century, +/- decade, +/- year). Then, expand your implementation to include the months, days, and hours.
    - Partial credit will be given if you implement the year-related functionality but aren't able to get all of the functionality working in the allotted time.

`Firebase`

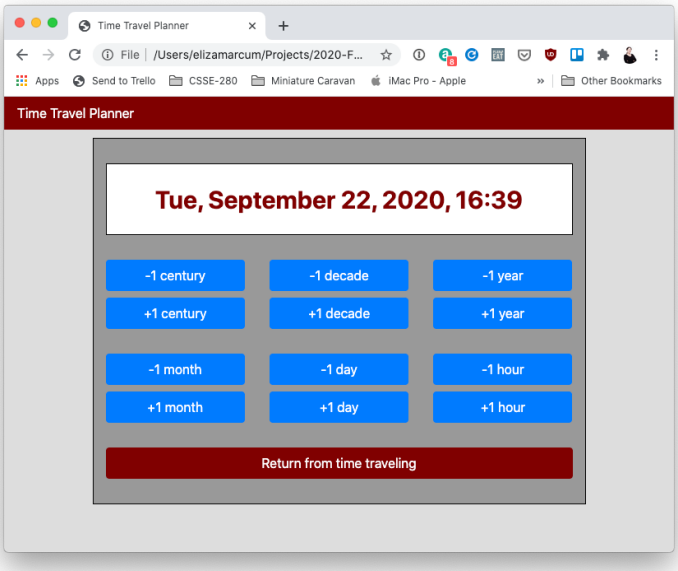
You can `firebase init` and `firebase serve` if you like (not necessary!), but **NEVER** `firebase deploy` this exam.

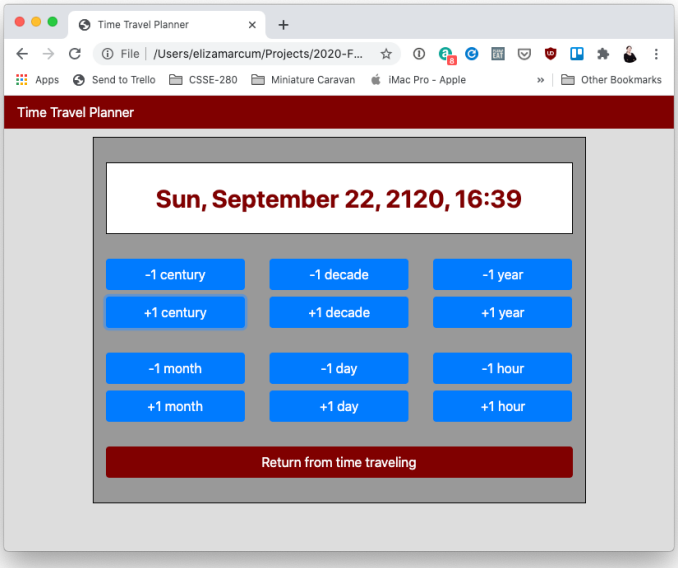
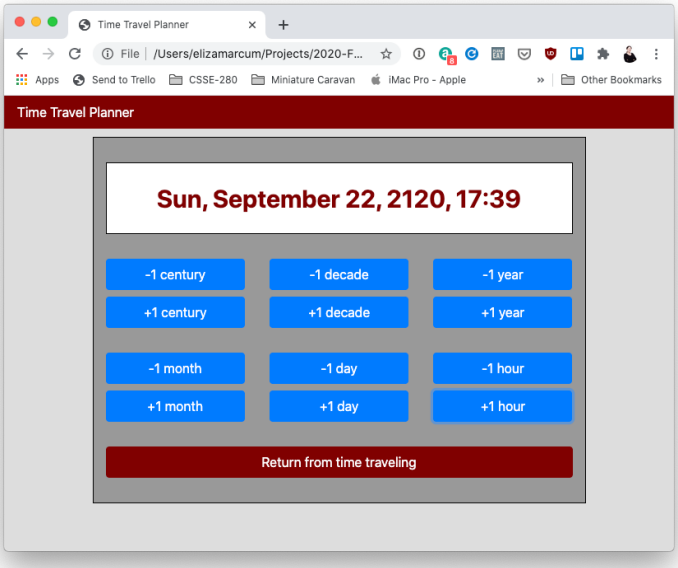
Submitting your work

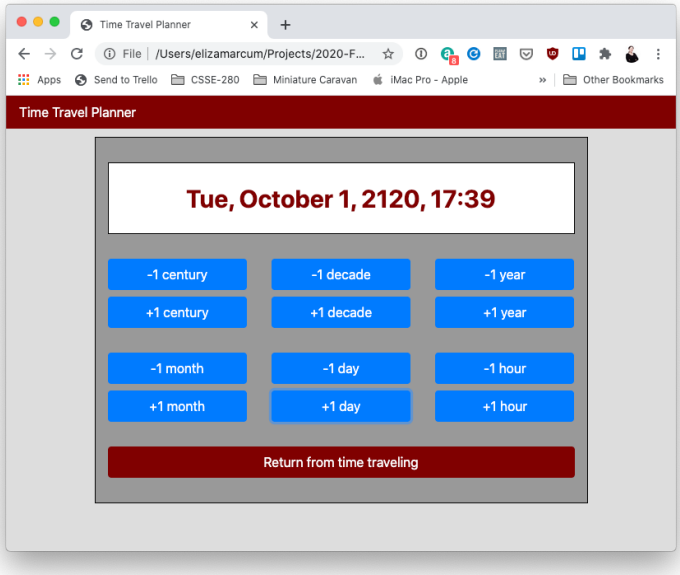
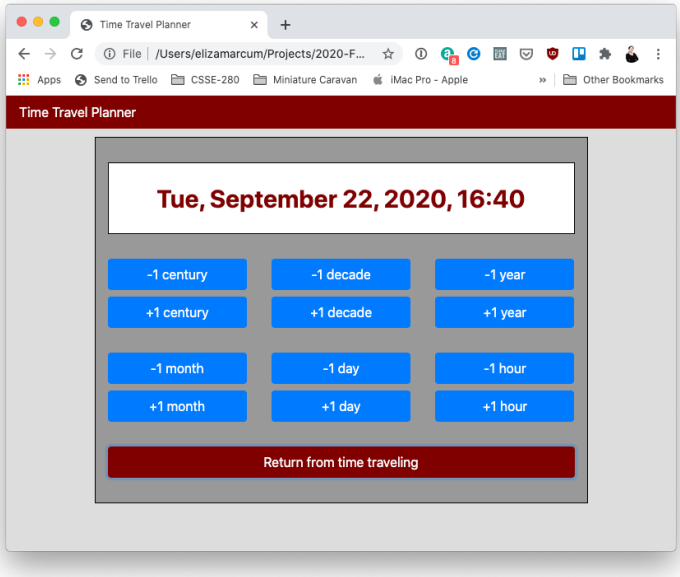
You will submit a .zip of your project folder to Moodle. In the case of technical problems or learning accomodations you must send your .zip to your instructor via MS Teams (Warning: Emailing the zip WILL NOT WORK! the .js files in the zip will cause the email to be rejected)

Exam 1 – Functionality / Workflow Images:

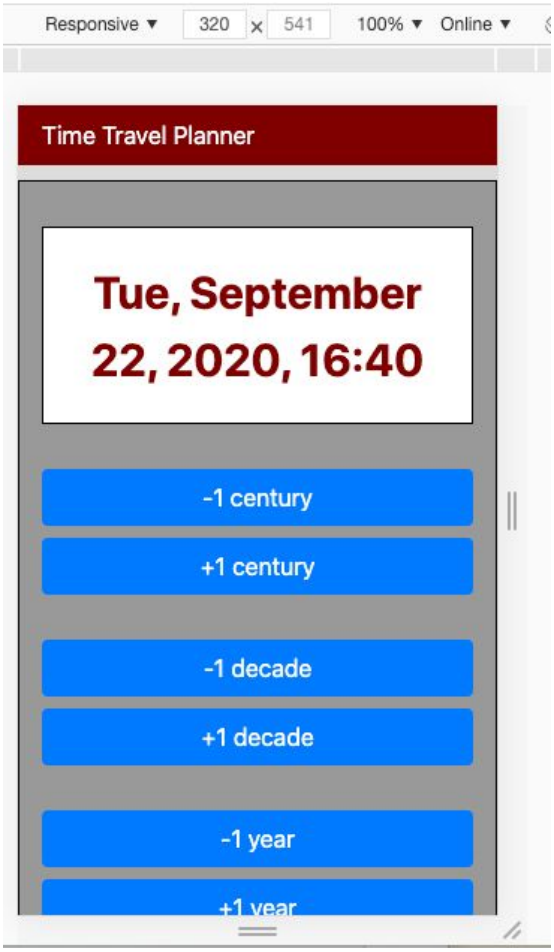
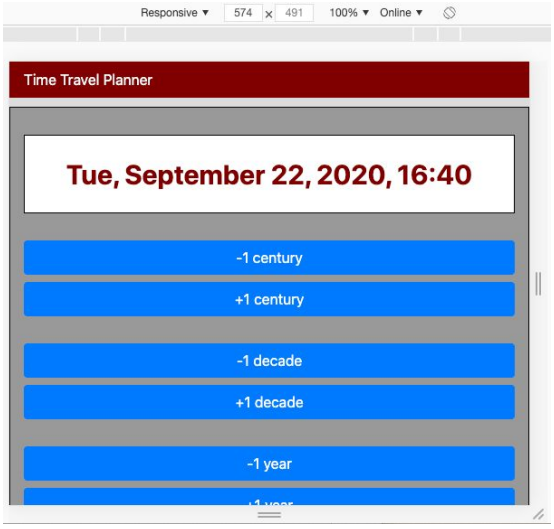
Example Images (You may ask the instructors (Prof. Yoder and Prof. Marcum) via MS Teams on the 2. Live Office Hours Channel on Teams if you need to ask for more details. But do not post any of your progress there, you can do that in a direct message to your instructor (or the other instructor).)

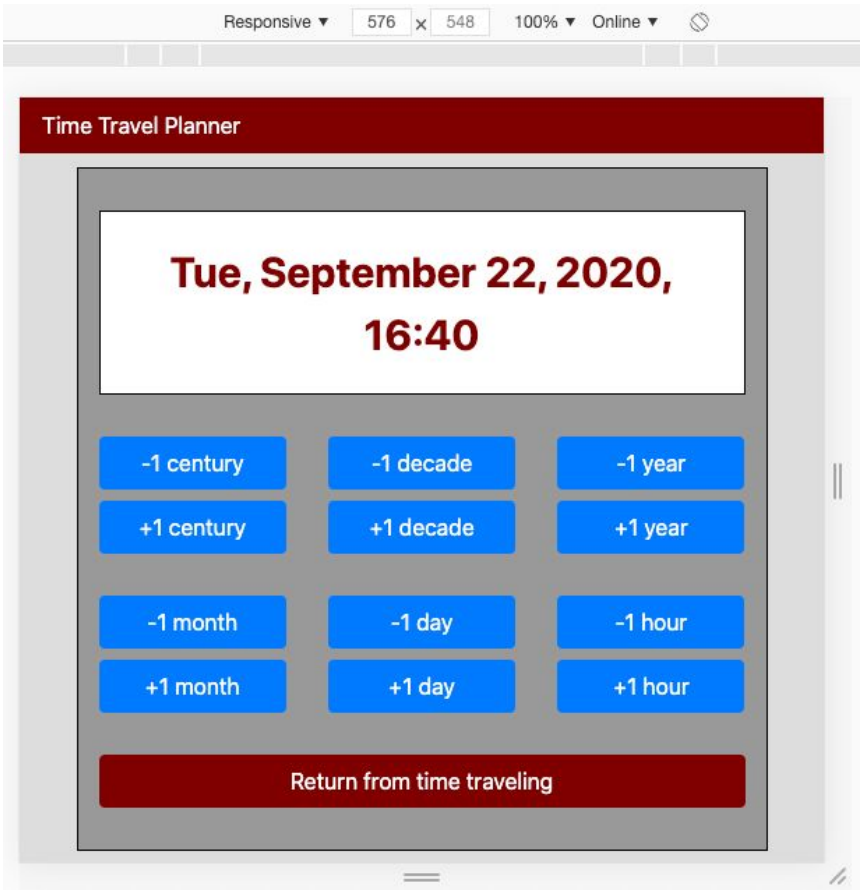
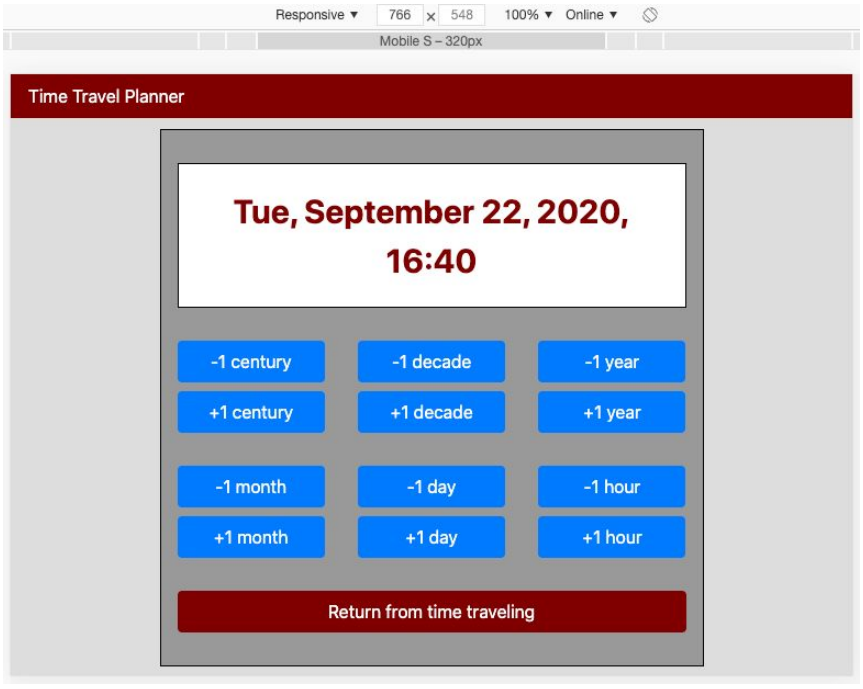
Refresh page	

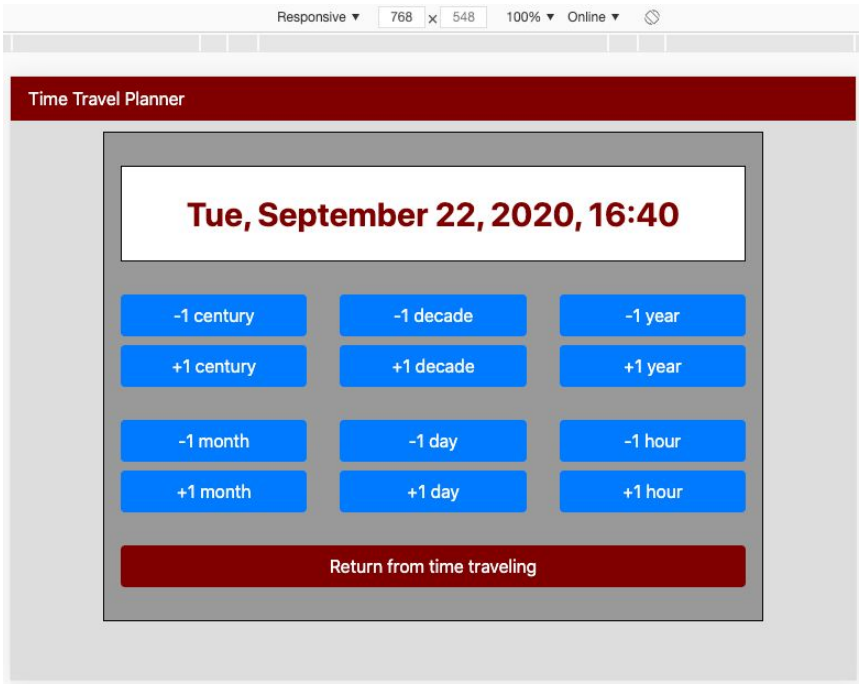
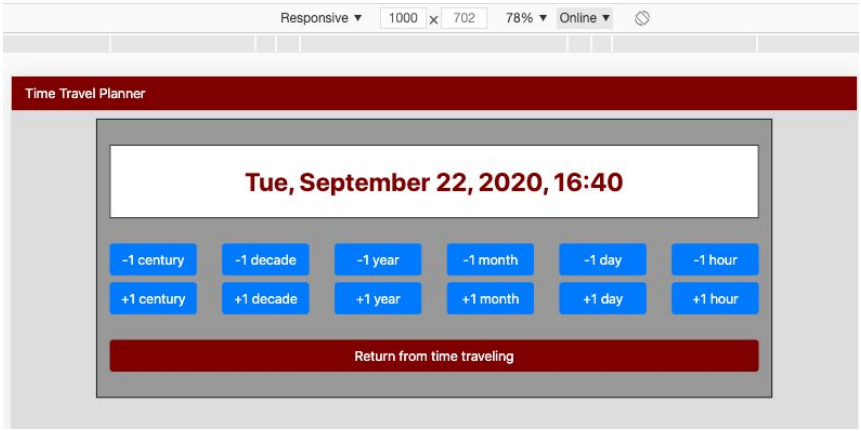
Press “+1 Century”	
Press “+1 hour”	

Press “+1 day” 9 times	
Press “Return from time traveling”	 Notice that at the end of my time travel, my local time had gone from 16:39 to 16:40. This is not a bug.

Exam 1 – Layout Images

320px	
574px	

576px	 Responsive ▾ 576 x 548 100% ▾ Online ▾ Time Travel Planner Tue, September 22, 2020, 16:40 -1 century -1 decade -1 year +1 century +1 decade +1 year -1 month -1 day -1 hour +1 month +1 day +1 hour Return from time traveling
766px	 Responsive ▾ 766 x 548 100% ▾ Online ▾ Mobile S – 320px Time Travel Planner Tue, September 22, 2020, 16:40 -1 century -1 decade -1 year +1 century +1 decade +1 year -1 month -1 day -1 hour +1 month +1 day +1 hour Return from time traveling

768px	
1000px	

- **Style specifications:**
  - Shade of blue for buttons is: #007BFF (You might not need this)
  - Shade of red for everything is: #800000
  - Inner panel's background color is: #999999
  - There is a 1px black line around the edge of the large gray panel (the box containing all the buttons)
  - There is a 1px black line around the edge of the time viewer box. (i.e. Tue, September...)
- **Width observations**: The layout when less than 576px is full width. Up to 768px is 11 columns. Everything above 768px is 10 columns.
- **Button observations**:
  - When the layout is full-width, the buttons are seen in the following order: "-1 century", "+1 century", "-1 decade", "+1 decade", "-1 year", "+1 year", "-1 day", "+1 day", "-1 hour", "+1 hour"

    - When displayed at other sizes, the buttons are shown in pairs, with the "-" versions appearing to be in one row, and the "+" appearing to be in a row below it
    - The number of buttons in a "row" vary based on the screen size
    - The buttons are rounded
    - Buttons are evenly distributed with default gutters for column padding
    - The "Return from time traveling" button is always full-width
    - Left and right edges align for all items.
- **Vertical height observations**:
    - There is greater padding at the top and bottom of the time travel dashboard than the sides.
    - The following measurements are identical:
        - the top padding of the time travel dashboard
        - the bottom padding of the time travel dashboard
        - the vertical margin between groups of buttons
        - the vertical margin between the display and the buttons
- Try to match the pictures above. Get other things done before making the CSS perfect.

Hint from Dr. Yoder, who is a generous soul: Realizing that the different jump sizes are grouped together in some fashion may be helpful to reproduce this layout.