

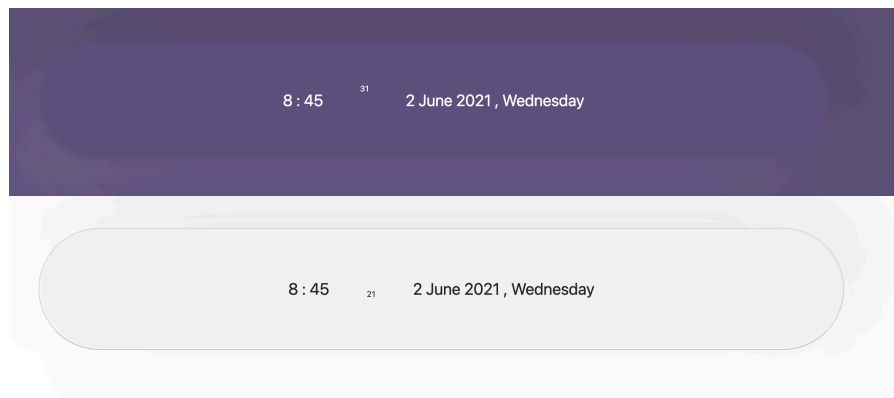
Batu Isik - 18005470 - Challenge 2

What we have learned :

During the 3 weeks after challenge 1, we learned about animation styles such as transition, Interaction, Easing/linear animation and Interactive animations with very well thought sponge-bob examples. We also covered how to make countdowns, date and time functionalities and how to display them. Of course, we were expected to link these with the previous knowledge we have from the challenge 1. For example making a countdown with an alert at the end of it or using arrays to display months as it is, not with a number.

Challenge 2 :

For Challenge 2 we were expected to make an interactive and animated digital "mars clock" to be display on the dome. I decided to animate the seconds to give a swinging effect (sort of like the old alarm clocks with swinging tail) and make a dark mode for night times.



```
<body id="body">

  <h2>Hello Martians !</h2>
  <button id="bar" class="whiteClock">
    <a id="clock"></a>
    <a id="secs"></a>
    <a id="date"></a>
  </button>

</body>
```

After setting the regular html elements such as body, header... etc, I made a div where the clock is displayed. However I later figured it out that it is way easier to make it a "button" to make it clickable.

```
function formatTime() {
    var now = new Date();
    var time = new Array();

    time['hours'] = now.getHours();
    time['minutes'] = now.getMinutes();
    time['seconds'] = now.getSeconds();
    time['day'] = now.getDay();
    time['date'] = now.getDate();
    time['months'] = now.getMonth() + 1;
    time['year'] = now.getFullYear();

    if (time['minutes'] < 10) {
        time['minutes'] = '0' + time['minutes']
    }

    if (time['seconds'] < 10) {
        time['seconds'] = '0' + time['seconds']
    }
}
```

I used one of the lecture examples as the basis of my code, then improve the code with adding other functionalities such as day, month, year...etc. Also added if statements to display 0 as a first digit for 1-9 seconds and minutes.

```
if (time['day'] == 0) {
    time['day'] = 'Sunday'
}
if (time['day'] == 1) {
    time['day'] = 'Monday'
}
if (time['day'] == 2) {
    time['day'] = 'Tuesday'
}
if (time['day'] == 3) {
    time['day'] = 'Wednesday'
}
if (time['day'] == 4) {
    time['day'] = 'Thursday'
}
if (time['day'] == 5) {
    time['day'] = 'Friday'
}
if (time['day'] == 6) {
    time['day'] = 'Saturday'
}
if (time['months'] == 1) {
    time['months'] = 'January'
}
if (time['months'] == 2) {
    time['months'] = 'February'
}
if (time['months'] == 3) {
    time['months'] = 'March'
}
if (time['months'] == 4) {
    time['months'] = 'April'
}
if (time['months'] == 5) {
    time['months'] = 'May'
}
if (time['months'] == 6) {
    time['months'] = 'June'
}
if (time['months'] == 7) {
    time['months'] = 'July'
}
if (time['months'] == 8) {
    time['months'] = 'August'
}
if (time['months'] == 9) {
    time['months'] = 'September'
}
if (time['months'] == 10) {
    time['months'] = 'October'
}
if (time['months'] == 11) {
    time['months'] = 'November'
}
```

I spent so much time trying to make an array for the months and days to display them as words not numbers, however I did not succeed and ran out of time, so I wrote a "smelly" code. :(

Later on, I wrote the 3 different functions. Each for clock (minute, hour) , seconds and date with elements I already defined at the first lines of main.js.

```
function updateClock() {
    document.getElementById('clock').innerHTML = formatTime()['hours'] + ' : ' + formatTime()['minutes']
}

function updateSeconds() {
    document.getElementById('secs').innerHTML = formatTime()['seconds'];
}

function updateDate() {
    document.getElementById('date').innerHTML = formatTime()['date'] + ' ' + formatTime()['months']
}
```

To make it go dark when I click on it, I wrote a turnDark function and lined it with the button. As I mentioned earlier I simply did not work with other types of tags.

To finish it up, I set intervals to reload the digital clock ever second to update the time and date.

```
function turnDark() {  
    var btn = document.getElementById("bar");  
  
    btn.classList.toggle("darkClock");  
  
    body.classList.toggle("darkBody")  
}  
  
document.getElementById("bar").onclick = turnDark;  
  
setInterval(updateClock, 1000);  
setInterval(updateSeconds, 1000);  
setInterval(updateDate, 1000);
```

For the css animated seconds, I used a infinite loop where seconds go up and down with ease in and out that takes exactly a second to take 1 lap.

```
#secs {  
    position: relative;  
    animation: 1000ms UpDown infinite alternate-reverse ease-in-out;  
}  
  
@keyframes UpDown {  
    0% {  
        top: 30px;  
    }  
    100% {  
        top: -50px;  
    }  
}
```