

Lab 4 – Sunrise Sunset API Dashboard

Introduction

This lab will have you build an HTML, CSS, and JS dashboard to show sunset and sunrise times at the current location or any searched location.

Requirements

- Use this API endpoint for your data: <https://sunrisesunset.io/api/>
- Read the API documentation page to see how to make requests, the format the response will be, and how to handle errors
- There is no specific mockup for this lab. Please come up with your own layout and design as long as it meets the requirements below. Do not do the same exact layout as another student.
- You may want to look at one of their examples for ideas for presentation of data.
- There should be two options for the user to get sunrise and sunset data for a given location.
 - User should be able to use current Geolocation with a button or something using the Geolocation API.
 - **441 Students** – Add a select list with specific named locations that you want to include (at least 5) that the user can choose from.
 - **541 Students** – User should also be able to search for a named location using a text field. Use the geocode API, <https://geocode.maps.co/>, to be able to search for a location and return latitude and longitude which will then be used for the sunrise sunset API. You can use the first/closest match from the geocode API.
 - Make sure to handle errors if location is not known. Documentation describes error responses. Make sure to show the user a message with the error if there is a problem.
- You may use any AJAX method to request the data and process it.
- Upon a successful response your dashboard should be updated to show the following from the response data
 - Sunrise and Sunset for both Today and Tomorrow
 - Dawn and Dusk for both Today and Tomorrow
 - The day length for both Today and Tomorrow
 - What time is solar noon for both Today and Tomorrow
 - What time zone are the times shown in
- Be creative with how you display the info. Use modern CSS layout methods like flexbox and grid to display the data. Try to use some images/icons to make it look nicer.
- Please show placeholder content or empty reserved space before the user submits the request.
- If there is an error with the response show the user an error message that explains what happened. Don't show broken data or markup in your dashboard.

- Make sure you style the dashboard nicely with CSS. I will be looking at the layout and styling to determine how well the information is presented to the user.
- Make sure the user can do another search using the UI without having to reload the webpage in the browser. No dead ends in the UI.
- **Test completely** before submitting to blackboard. Make sure everything works on GitHub pages. That is what we are going to test.
- Make sure the HTML document uses the HTML5 page structure we talked about in class.
- Add your CSS and JS as **external files**.
- You may use a CSS framework if you like. Please add some of your own CSS in addition to the framework if you do use one.
- Make sure you credit the API on your page as described in the "Example Requests" section of the API doc page.
- 441 students just need to make it work and look nice on desktop. 541 students need to make sure it still is usable on smaller screen sizes like mobile. Resize your browser window or use the develop tools in mobile mode to test. 541 Students should be using media queries.
- Publish your finished work to your GitHub repository and GitHub Pages.
- You may use an existing repository or a new one, whatever works best for you.
- Test the GitHub Pages URL in your browser to ensure it all works before you submit.
- Submit both your GitHub Repository and your GitHub Pages hosted file URLs in the blackboard assignment text field.

Graduate Additional Requirements

If you are involved in **any section of 541** you need to complete the additional requirements listed here.

See bullet points above regarding 541 students needing to have a location search functionality.

Make sure the user interface works well at mobile phone sized screens. You can do this with responsive CSS or with a creative way of laying out the UI, so it works well on both desktop and mobile. Use browser dev tools to test on mobile. Also, there is a higher expectation on the quality of CSS used for 541 students.

README File

Not Required for this Lab

Due Date / Late Policy *TUESDAY, November 28, 2023 11:59pm*

This assignment is due ~~Wednesday, November 29, 2023, 11:59 PM~~ *TUESDAY, November 28, 2023, 11:59 PM* Chicago Time. No Extensions or Exceptions. Late policy in syllabus applies. No assignments will be accepted after Dec 2.

Submission Guidelines

If you do not submit your assignment exactly as specified, you will receive an immediate 10% deduction.

Submission Format Specification:

Commit all files used to your class GitHub Repository and submit to the Blackboard assignment the URLs to both your GitHub repository and the GitHub Pages hosted page.

Resources

<https://sunrisesunset.io/>

<https://sunrisesunset.io/api/>

<https://geocode.maps.co/>