

Building an Animated Solar System Model

Overview

In this exercise, you'll create an animated model of the solar system using HTML and CSS. The model will include the Sun at the center, with planets orbiting around it. You'll begin with Mercury and Venus and then add more planets.

Objectives

- Understand and apply CSS animations and keyframes.
- Practice using HTML to structure web content.
- Utilize CSS for styling and positioning elements.
- Enhance the model with additional planets beyond Mercury and Venus.

Instructions

1. Set Up the HTML Structure

- Create an HTML file and set up the basic HTML document structure. Include a **DOCTYPE** declaration, a **head** section with meta tags for character set and viewport settings, and a **title** tag.
- In the **body**, create a div with a class of **solar-system**. This will serve as the container for your model.
- Inside the **solar-system** div, add a div with a class of **sun** to represent the Sun.
- Add divs for Mercury and Venus orbits within the **solar-system** container. Each orbit should have a unique ID (e.g., **mercury-orbit**, **venus-orbit**) and contain a nested div representing the planet itself with appropriate classes (**planet mercury**, **planet venus**).

2. Style Your Solar System

- In the **head** of your HTML document, include a **style** tag where you will add all the CSS necessary for this project.
- Set the body and html elements to fill the height of the viewport, and center the **solar-system** div both horizontally and vertically. Set the background to black to represent space.
- Style the **sun** with appropriate dimensions, color, and position it at the center of the **solar-system**.
- Create classes for the orbits and planets. Orbits should be styled with a dashed border to represent their paths, and positioned absolutely within the **solar-system**. Planets should also be positioned absolutely within their respective orbits.

3. Animate the Planets

- Use CSS keyframes to create orbit animations for each planet. Define at least two animations named **orbitMercury** and **orbitVenus** that rotate the planet's orbit 360 degrees.
- Apply these animations to the respective orbits using the CSS **animation** property, specifying the duration, timing function, and iteration count.

4. Expand Your Solar System

- After implementing Mercury and Venus, continue to add more planets to your solar system. For each new planet, you will need to add a new orbit with a unique ID and a nested div for the planet.
- Style each new planet and orbit accordingly, adjusting dimensions, colors, and animations to reflect their characteristics and orbital periods.

Tips

- Pay close attention to the CSS `position`, `transform`, and `animation` properties, as they are crucial for this project.
- Remember to use the `transform-origin` property to ensure planets orbit correctly around the sun.
- Experiment with different animation durations for each planet to mimic their relative orbital periods.

[Watch The video](#)