

Make a 2d solar system simulation, and add buttons to zoom in and out



I will create a single-file HTML interactive 2D solar system simulation.

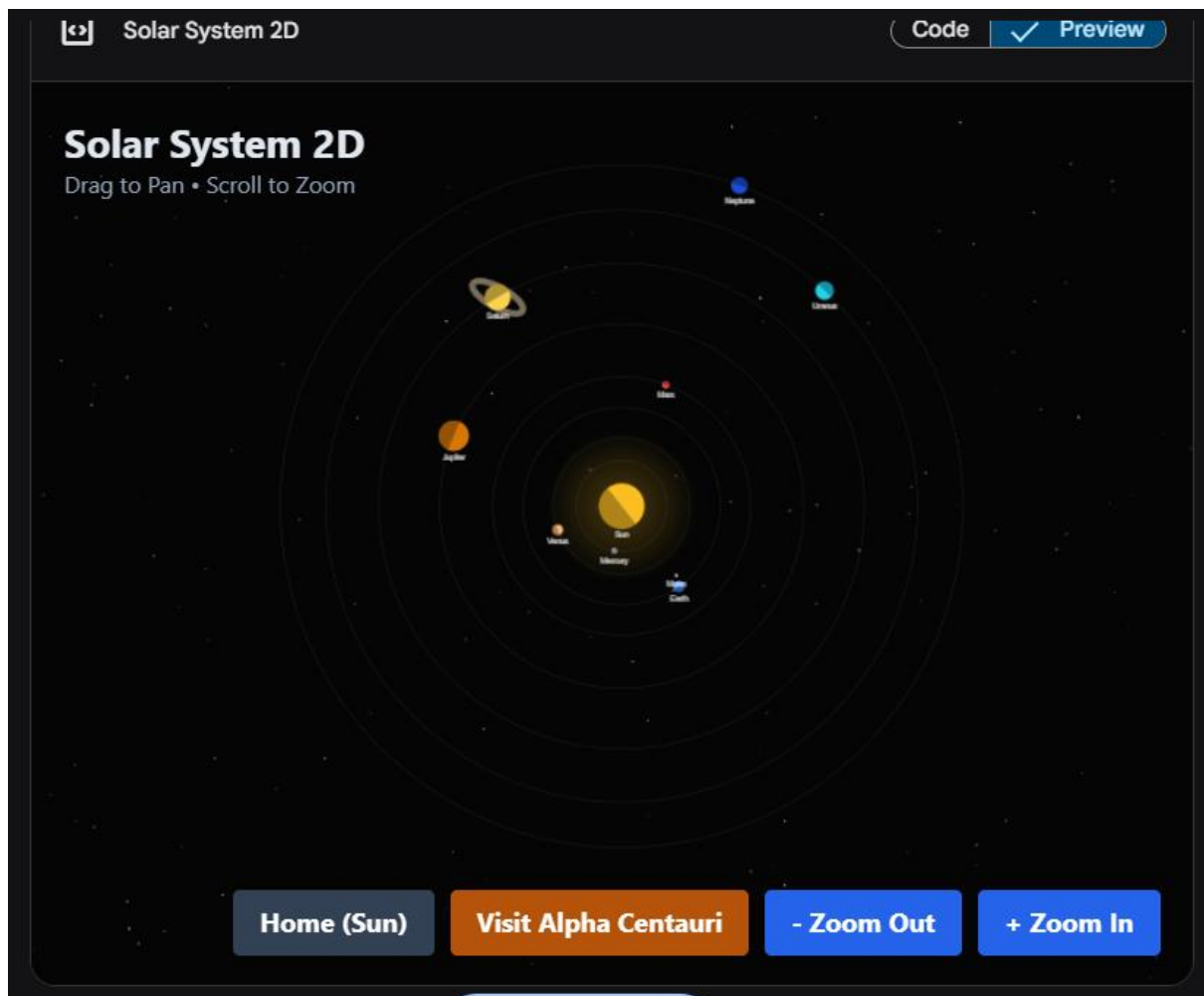
Features

- **Visuals:** A central Sun with 8 orbiting planets (Mercury through Neptune) and Earth's Moon.
- **Stylized Scale:** The distances and sizes are stylized (not to scale) to ensure everything is visible on a standard screen while maintaining the correct relative order and approximate speed ratios.
- **Controls:**
 - **Zoom In/Out:** On-screen buttons to adjust the viewing scale.
 - **Mouse/Touch Interaction:** You can also pan (drag) the view and use the scroll wheel to zoom.
- **Details:** Includes a starry background, orbital paths, and a ring for Saturn.

Here is the simulation:

How to use it:

1. **Controls:** Use the buttons in the bottom right to Zoom In/Out.
2. **Mouse/Trackpad:**
 - **Drag:** Click and hold anywhere to pan the camera around.
 - **Scroll:** Use your mouse wheel or trackpad scroll to zoom in and out dynamically.
3. **Details:** I included Earth's Moon and a stylized ring around Saturn. The distances are compressed so you can see the outer planets without zooming out too far.



Koden til dette er kun tilgængelig via link.

Now add the nearest solar system



I will add the Alpha Centauri system (our nearest neighbor) to the simulation. This includes Alpha Centauri A, Alpha Centauri B, and the red dwarf Proxima Centauri with its planet Proxima b.

I'll also add a navigation button so you can easily travel the vast distance between our Sun and Alpha Centauri.

Updates Made:

1. **Added Alpha Centauri System:** I placed it at a stylized distance (coordinates 3000, -1200). It includes **Alpha Centauri A**, **Alpha Centauri B**, and **Proxima Centauri** (with its planet **Proxima b**).
2. **Navigation:** Added a "Visit Alpha Centauri" button to the bottom controls. Clicking it will automatically pan and zoom the camera to the new system.
3. **Code Logic:** Updated the `CelestialBody` class to support independent star positions (using `startX` and `startY`).

the zoom in and out is doing it at the center of the sun, please make it do it at the camera position



I will update the `changeZoom` function to scale the view relative to the center of the screen (the "camera position") instead of the world origin (the Sun). This ensures that whatever you are looking at stays in the center when you zoom in or out.