Learning Design Studio Coding Task

Solutions will be evaluated based on project architecture, clarity, and development best practices.

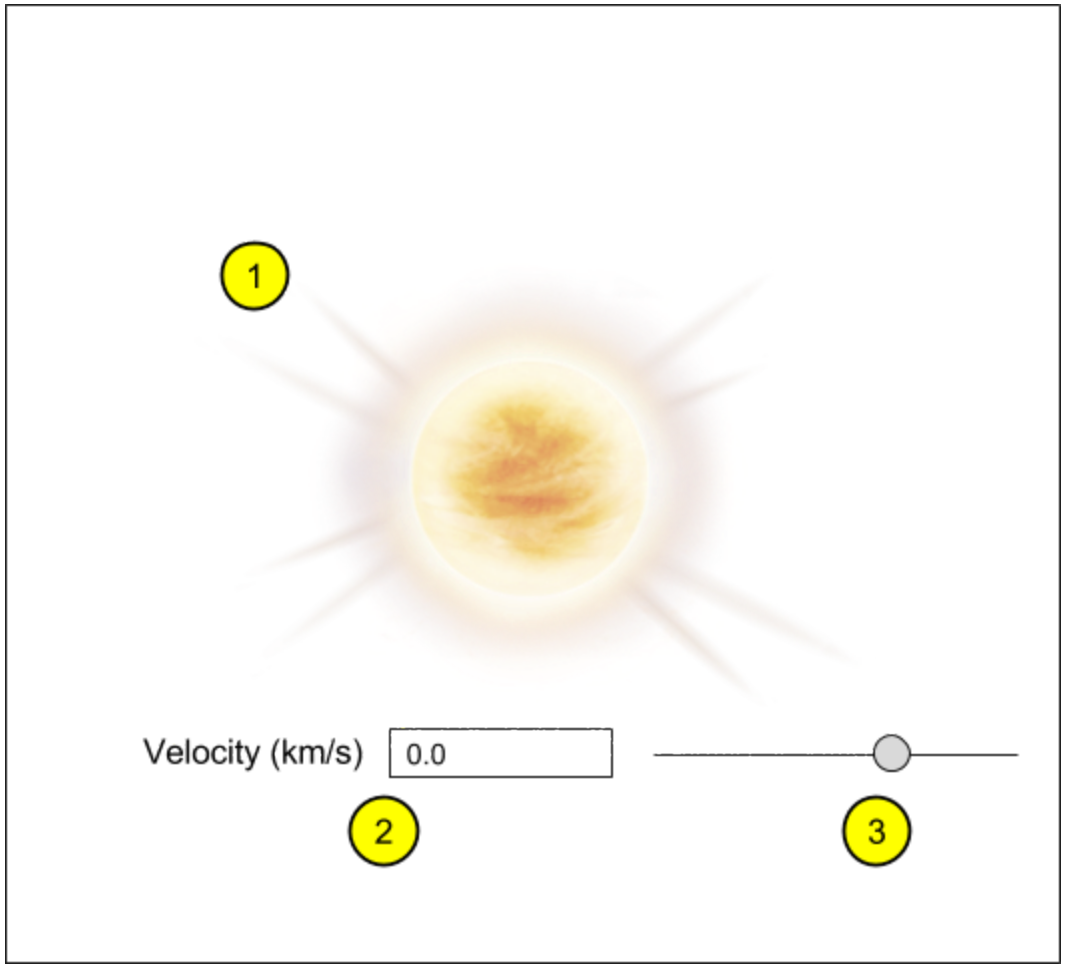
The following task should be programmed in JavaScript, HTML and CSS (pre-processors are encouraged but not mandatory). The usage of external libraries and frameworks are allowed, and these choices will be evaluated.

Submission should be in the form of a single zip file, with any necessary instructions in a README file.

The Doppler Effect

Alice, a lecturer in a first year cosmology course, is struggling to teach the Doppler effect concept to her students. She needs a simple simulation that exaggerates how a star changes colour as it moves toward and away from an observer.

Your task is to build the simulation, helping Alice explain the Doppler effect to her students.



1. The star's (1) colour should change based on the value of the velocity input (2), where:
    a. 0 = no colour change
    b. -100 = Blue
    c. 100 = Red
2. The slider (3) should update the velocity input (2), in the range -100 to 100 inclusive.
3. The velocity input should accept numbers only; which are limited to range of the slider (3).
4. The slider should be based on either a log or exponential scale, providing more detail towards the negative velocity range (Blue).
5. The page should be styled at a minimum to look like the following. Alice is hopeful for students to access the simulation from a variety of devices, including desktops and

mobile phones. Extra points for personal flare and demonstration of best practices: