

Criterion E: Evaluation

Success Criteria

- The webpage runs on all major browsers without errors that stop any simulations or input. - *this is met; the program runs on Chrome, Firefox, and Safari.*
- The webpage is accessible to users - they can navigate the website, and those with a basic knowledge of the physics topic will be able to understand the content of the page. - *this is met; my client could follow the website and understand what concepts each simulation used.*
- The simulations behave correctly based on the displayed values and equations. - *this is met; the animations are consistent relative to the values and their behavior is predictable.*
- Simulation allows the user to input their own variables and updates the visual accordingly. - *this is mostly met; each input field correctly affects the simulation, but the angle of the tetherball doesn't always match the calculated angle.*
- Dependent variables are calculated correctly from input values - *this is met; the calculations are correct.*

Client Feedback

My client was ultimately pleased with my product (see Appendix 2). They thought the simulations were easy to understand, especially with the equations and short descriptions. They said the simulations resembled Colorado PhET simulations, which was a goal of my product. However, they suggested more labels and numbers in the simulation canvas so the user could see where each value was factored in. The product could also be extended to have more situations, as three is a somewhat low number. The style of the webpage was also viewed as empty because of the dark theme and the lack of additional links or menus.

Recommendations for Further Development

The website uses dark and light grey almost exclusively, and the entire page has the same background color. To make the website more visually appealing, I could choose a pleasing color palette and change the CSS to add more color diversity. Each simulation could have a border or different background to help the user more easily distinguish between them.

The simulations are almost purely visual, with no numbers or arrows except for the first. As my client said, adding these would help students better understand what the numbers meant and how they affected the simulation. I could add more arrows easily, as they are created using an existing object, and I could draw text on the canvas displaying both input and output numbers.

I could also use localStorage to store values across browser sessions. If the user wants to keep replicate the simulation at a later time without remembering the values, the program could store the values and automatically repopulate the input fields when the site reopens.

Word count: 273