Special Relativity Visualizer

> This project was completed as the final project for PHYS-2255 at Vanderbilt University.

The goal of this project is to demonstrate various special relativity concepts using 3D graphics. The project is written in Javascript using the Three.js library. The project is hosted as a subdirectory of my primary website, https://cole-ellis.com/physics.

Usage

Although this site is hosted, you can run this project locally to try it yourself! To do this, you'll need Node.js, Git, and `npm` installed. Then, run the following commands:

```
https://github.com/thecae/PHYS2255-Final
cd PHYS2255-Final
npm install
npm run build
npm run tailwind
npm run start
```

This will host the site at `http://localhost:3000`. You can then navigate to the site in your browser.

Technologies Used

Here are a list of libraries and sources used for the project.

- The project is built on the Three.JS library, a game engine built in Javascript for web-deployed games.
- We used JHT's Planet Pixel Emporium to get the texture maps for each of the planets.
- The site is built on React. Several React components are integral parts of the site, including the slider, the clock, and the notification pane.
- The site is rendered using a Pug template, which is transpiled into HTML by the server.
- The server is backboned by Express.js.

In the final deployment, this standalone project was integrated into my personal website, already hosted using React and Express.