This website is an informational tool that teaches people about the concept "Musical Modes" and some other related concepts like "Interval" and "Step".

I want to present the basic information about Musical Modes to help people understand this concept on a theoretical level, which includes the origin of this term, how they are generated and how different Musical Modes tend to sound like. To understand Musical Mode, it seems necessary to understand other concepts such as interval and steps, so there is some information about these more basic concepts as well.

Compared to presenting the concrete information as text solely, getting the users to listen to the modes directly is a more interesting and engaging way to help them learn. However, simply playing some audio does not sound as engaging, so I decided to implement a virtual keyboard so that the users can actually play the notes. It also gives the users a lot more freedom, because they can explore the modes more and possibly play a piece of music.

I understand that I am not designing for myself, but from my experience of learning about Musical Mode as an adult who does not know too much about music, I think Musical Mode is a relatively complicated concept. Therefore, the target audience would be children/teenagers who already have some foundation about music theory and adults, especially those who are interested in learning about some uncommonly seen music theories.

Part 2

- Interact with navigation bar
    - I. Explore with mouse.
    - II. Click on the "Course Section" Button at top-right corner of every page to open/collapse the Course Section List at the left of each page and click on the section desired.
      Click on the logo to go to the Home page
- Last/Next button
    - I. Explore with mouse.
    - II. Click on the "Last Mode"/ "Next Mode" buttons on every Mode page.
- Direct navigation to Mode pages
    - I. Explore with mouse.
    - II. In the "Quick Intro" section of the Home page, Click on the name of each mode.
      In the "Try It" section, click on the "Mode Keyboard" to access keyboard.
- Keyboard interaction
    - I. Both with mouse and keyboards on every Mode page.
    - II. Click on the keys to play notes
      Press the key shown on the virtual keyboard to play notes

Part 3

I. p5.js & p5.sound.js
II. It has both the drawing function and a built-in sound library, which completely satisfy my need to create a virtual keyboard.
III. I drew the virtual keyboard and implemented the "playing notes" functionality.
IV. It adds the essential interaction my website needs and makes it more engaging.

Part 4

In the original design, a very big proportion is dedicated to illustrate the "step" concept, which might not be necessary and distract the users from the more important virtual keyboard. Therefore, I basically combined all the concepts in an Introduction page, and gave the keyboard enough space.

Part 5

The biggest challenge is to use an unfamiliar library to implement a feature I've never implemented before.

Up until this point I still don't know how to use multiple p5 sketch files in a single html page, but I have found some workarounds, which might not be the ideal solution. For example, I include keyboards for different modes in separate pages. This might not be the most ideal solution but it seems to work.

Also, I did not resolve the message "The AudioContext was not allowed to start. It must be resumed (or created) after a user gesture on the page.", which seems to cause unstable behavior for the site.