

The Purpose

Our project is an application meant for referencing basic chords and scales on instruments (i.e., piano). This tool allows users to easily visualize how chords and scales are laid out on the instrument, so they can better utilize them in their own playing.

Major Functions

Functionality includes:

1. Choosing an instrument

Piano is implemented, and we hope to implement guitar in the future.

2. Choosing between whether to view a *CHORD* or *SCALE*

For both *CHORDS* and *SCALES*, it will highlight on the keyboard what notes are contained in that chord/scale.

a. CHORD

- Choose between a Major, Minor, or Dominant 7. Will default to a Major 7.
- Choose a root note, using a dropdown list.
- *Optional: choose an alteration for the chord, up to a #13.*

b. SCALE

- Choose a root note, using a **dropdown** list.
- Choose a scale from the modes of major and minor in a **scrollable** list.

3. Functional Keyboard.

The keyboard is a functional piano. The keys can be clicked and sound will play. This allows the user to hear the notes in specific chords/scales.

a. Resetting

- Users can reset any selected chords/scales and the highlighted notes on the keyboard by clicking the “reset” button on the right hand side of the screen.

b. Saving a current preset

- When keys are highlighted on the keyboard after use selection of chord/scale, pressing the “Save Current Preset” button allows the user to name the preset and **save it to local storage**. This goes in hand with the next feature.

c. Loading a preset

- The user can press the “Load Presets” button, and will be able to select a saved preset. The keys of that saved chord/scale will be highlighted on the keyboard.

4. Navigate additional resources

The Resources tab gives resources for new musicians to learn more about music theory.

5. Profile Tab

Clicking the profile icon in the top right reveals the Profile tabs multiple features:

a. Changing Profile Image

- The user is able to change their profile picture by capturing a photo with their device. Saves to **local storage**.

b. Recording Audio Samples

- The user is able to record themselves playing their instrument to listen back on in the future. Saves to **local storage**.
- The user can delete these recordings.

6. Navbar

Displays multiple links to other pages in the system, including a back button that references the page the user was previously on.

Modules and Files

index.html

This is the home page for the project. It provides the interface to choose an instrument.

chordOrScale.html

This is the page where the user can view chords/scales, play the piano, and save/load presets.

profile.html

This is the profile page for the project. It shows information about the user, a changeable profile picture, and lets the user record audio.

resources.html

This is the page where the user can view resources on learning basic music theory.

script.js

The JavaScript file for interactability for the entire system **besides that of the piano and profile**.

piano.js

The JavaScript file that lays out functionality for **only the piano and scale/chord decisions**.

profile.js

This is the JavaScript file for interactability on **only the profile page**.

style.css

Provides styling for the entire system and responsive design. Creates a consistent theme for the system.

pwa.json

JSON file that contains information that allows the system to be downloaded as a Progressive Web App.

Images folder

This folder contains images that are used throughout the project.

Audio folder

This folder contains audio files that are used for the functioning piano.

Implemented Bonus Features

Use of Camera (1.5 points)

In the profile page (profile.html), the user can upload a profile picture using their device's camera. **The user must give the project the permission to access their camera.**

Use of Microphone (1.5 points)

In the profile page (profile.html), the user can record themselves playing their instrument (or whatever they want) using their device's microphone. **The user must give the project permission to access their microphone.**

Use of Location (2 points)

In the profile page (profile.html), the system automatically detects their location to provide information about their country on their profile. **The user must give the project permission to know their location.**

If one of those 3 do not count as a bonus...

We believe implementing a functioning piano should count towards bonus points. It really creates a design that proves to be useful for beginner musicians. Implementing this feature took time away from addressing the required components of the assignment. Maybe 1 bonus point.