

Musical Image Scanner by Devin Lane

Given an image, turn it into sound.

How do you use it?

Click [here](#)

- Click play, and a song is played from a random image from Unsplash. If you click the button again, the same song is played.
- If you press “stop” audio is stopped. If you press play again, the song will start from the beginning.
- If you click “Load a new random image” a new random image is loaded, then you may click “play” again for a new song.
- If you click “upload”, you can upload your own image. Then press play.

How does it work?

A random image is loaded from Unsplash. Within the code, each image is “split” into columns, and each column split into four rows. The color values of each row are averaged, and then those numbers are interpolated into frequency values which are fed into a synthesizer. The result is four parts of music playing together.

What tools are used?

- HTML, CSS, JavaScript, as well as the JavaScript libraries p5.js and Tone.js.
- The instruments used are guitar samples played by Devin Lane, and three instruments from Tone.js: a Karplus-String string synthesizer, a Frequency Modulator synth, and a “regular” synth.

What would you do if you had more time?

- Establish a musical frequency framework and perhaps use a 12-tone system. Currently each frequency is converted directly from a color value and played as is. The resultant sound is very microtonal, which is evocative from one perspective, or slightly dissonant from another perspective. For example, a pitch of 474.88hz might be played, which lies between C#2 (497.87hz) and D2 (469.92) in an equal-tempered A440 tuning system.
- Include a “pause” function. This way you could stop a song, and then resume from the same position. Currently if you press “stop”, when you press “play” again, the song restarts.

- Add rhythm controls and include more tempo variability in the compositions. Perhaps a different data point like line values could change the tempo of the piece of music.
- Allow different data pieces to modulate the effect parameters.
- Test on mobile and allow users to upload images with their phones.
- Add “image loaded” notifications when a new image is loaded. Make it clearer that the user should press play after the new image is loaded.
- Play with new tones, different synthesizers, new samples, different parameters of the synthesizers. More generally improve the musical composition. Perhaps include different presets the user may select
- Explore possibilities of using machine learning image detection for examples such as “if there’s a cat, play this noise”.