

SECTION 1

The New Spectrum Extension is a modification to the stock visualizer's Spectrum extension. The extension is made up of numerous points that spread across the screen's x-axis; each point utilizes the p5.Sound FFT function to react to the sound being played; as the sound gets louder, the points' color changes from green to red.

The Frequency Rings Extension is also a modification of the Needles extension. Like the needle extension, this extension consists of 4 different items that tell the level of four different song frequencies (Bass, Treble, High-mid, and Low-mid) using p5.Sound FFT.getEnergy method. The rings also measure the frequencies using colors from green to red, depending on how loud each frequency is.

The Ring extension is a newly implemented extension that uses the p5.Sound FFT function to calculate the amplitude along a time domain using the waveform technique. This amplitude is then mapped to form a circle and will change form depending on the song's amplitude. Particles also appear from the ring and disperse outwards to the end of the screen.

BoxSplash is another new extension that was implemented. This extension uses the getEnergy function of the p5.Sound FFT to determine the bass level and move each box depending on the bass of the song. p5.Sound AudioIn, SoundFile, SoundRecorder, and Amplitude functions were used to create the audio extension. The user can record their voice while nodes move across the screen, with the size of each node being affected by the amplitude function. The user can also save and listen to the file on their device.

Music Player is a new extension implemented primarily using HTML, CSS, and JavaScript. This construct is called globally, thus it is visible across the template. It begins and ends each song, switches to the next or previous song, and displays the song name. The space bar can be used to hide or reveal.

The title, which is itself an extension, is the first thing the user sees and provides instructions on how to use the extension.

All extensions have the same background which merges quite nicely with the template, and they are well commented and indented. If an extension has an "onResize" method, it will always be implemented first, followed by "setup" if it exists, and then "draw." After that, any other method would be used.

Coding techniques that were utilized are:

1. Objects
2. Variables
3. Arrays
4. Loops
5. Statements

6. Math functions
7. Constructs
8. Methods
9. P5 Libraries