

SONY

Specifications for Sampler Web App

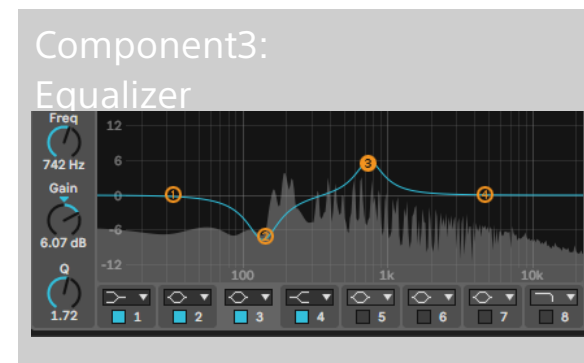
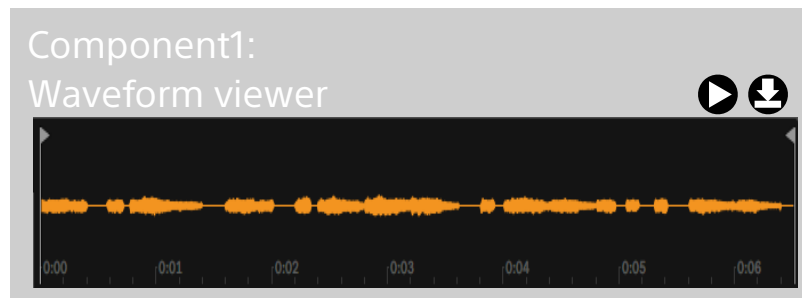
Version 1.0 / January 2023

Sony CSL

**INTERNAL
USE ONLY**

Overview

- Please code simple sampler web application shown below using **Typescript** and **React**.
- Specifications for each component are shown on the next page and beyond.
- Each component should be implemented with a React function component so that it can be reused in other applications.



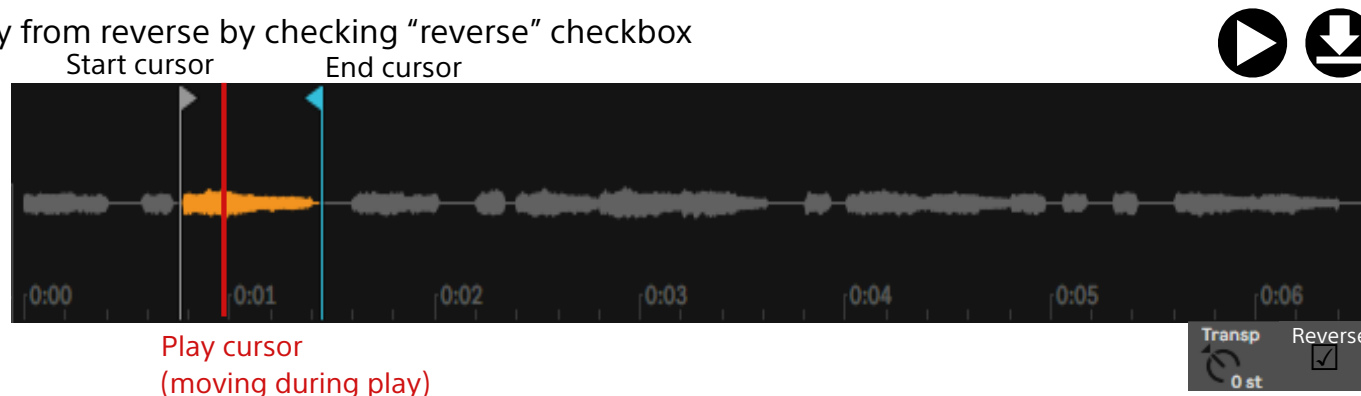
Component1: Waveform Viewer (1/2)

- Minimum Requirement
 - User can upload .wav sample by drag and drop
 - User can see waveform of uploaded .wav sample
 - User can playback and download sample after envelope editing (Component2) and EQ (Component3) by clicking each button
 - Use **Tone.js** as a library for sample playback



Component1: Waveform Viewer (2/2)

- Advanced Requirement
 - Start / End cursor
 - Edit start and end timing of sample by dragging cursors
 - Play cursor
 - See the point in time at which it is currently being played by play cursor
 - Transpose function
 - Transpose pitch of sample by knob in semitone steps
 - Reverse function
 - Play from reverse by checking “reverse” checkbox



Component2: Envelope editor

- Minimum Requirement
 - User can control ADSR parameter of sample by knob (Attack, Decay, Sustain and Release)
 - Please refer to <https://tonejs.github.io/docs/14.7.77/Envelope.html>



- Advanced Requirement
 - Curve Edit Function
 - Edit each ADSR parameter by dragging each vertex on the curve
 - The value adjusted by the knob should be reflected interactively in the curve.
 - Curve bending edit
 - Adjust curve bending by dragging a point between each vertex
 - Yellow arrows in the right figure



Component3: Equalizer

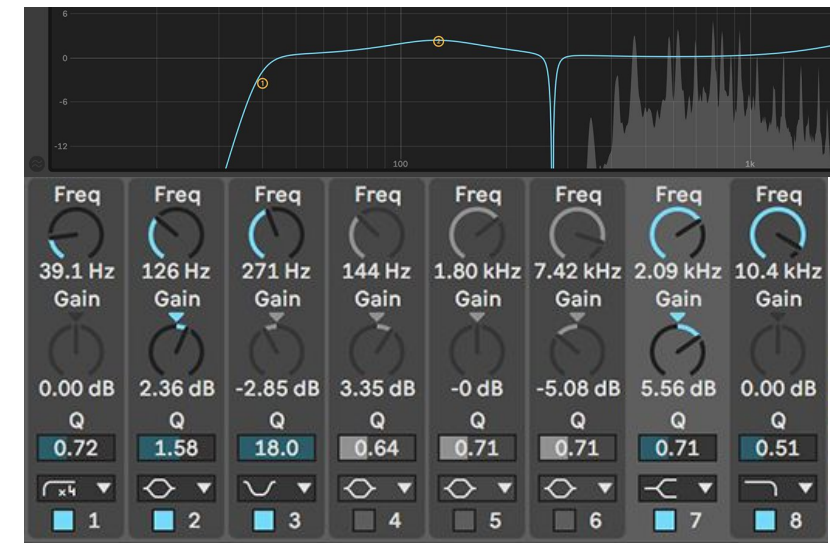
- Minimum Requirement

- 3 band EQ
 - Control gain of low, mid and high and frequency of low and high by knob
 - Please refer to Tone.js EQ3 <https://tonejs.github.io/docs/14.7.77/EQ3>



- Advanced Requirement

- Multi-band EQ
 - Up to 8-band filters can be used
 - Frequency, gain, and Q value can be set for each filter.
 - Possible to set on/off for each filter.
 - Filter type can be set for each filter.
 - Low cut, low shelf, bell, notch, high shelf and high cut
- Curve Edit Function
 - Frequency and gain can be set by dragging points on the curve
- Spectrum
 - Displays the spectrum of the sample being played in the background



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