SSUI HW8 Write-Up

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Part 1

The purpose of my website is to make multiple musical instruments (piano, guitar, bass and drum) interactive and playable on a web page. People would not need to buy expensive instruments or softwares, or bring their heavy guitar when traveling — instead, they can simply open up this website, play and create music. When designing of this website, I investigated different ways of mapping piano keys, guitar frets and drums to keyboards or computer-based interactions, and I designed three different ways of interaction. The target audience is people who play an instrument, or who are just curious about how music works.

Part 2

- navigate to different web instruments
  - standard web page
  - click on different instruments on homepage to go to instrument pages

- play a piano
  - standard web page
  - click on piano keys or use keyboards on piano page

- play a guitar
  - real guitar line in
  - line in your guitar and play on guitar page
  - effects can be added by adjusting virtual pedals

- play a bass
  - real bass line in
  - line in your bass and play on bass page
  - effects can be added by adjusting virtual pedals

- build and loop a drum pattern
  - standard web page
  - click on squares in web step sequencer on drum page to create a drum pattern

Part 3

- tone.js
  - It is designed for creating and modifying web audio.
  - I used it to generate piano sounds from sinusoid waves.
  - Sounds of a piano.

- pedaboard.js
  - It is a library of building guitar pedals.
  - I used it to create the pedals and used its built-in interface.
  - The javascript implementation of pedals and some interface structure of the pedalboard.

Part 4

I mainly changed the interfaces and interactions of instruments from my prototype, since I felt that using step sequencers for all instruments may not be the best representation and the most intuitive way of playing instruments. So I re-designed them to make them easier and more interesting to interact with.

Part 5

Initially I was trying to create a real-guitar-like interface for the web guitar. However, I found it difficult to mock the feeling of guitar play, since it is usually a complex combination of lefthand and righthand patterns and often include advanced techniques like bending and vibrato. Thus, I instead turned to design a web pedalboard.