

Code Documentation

Description for each mini-project

#1. Cascading audio effect units with bypass buttons

This project is mainly about cascading audio effects - filter, delay and reverberation. But it is possibly not being used by user's selection as checking bypass checkbox. So it added each effect to the source selectively.

```
1  // connecting the three audio effects
2  var effects = [];
3  if (!toggleFilterBypass()) effects.push(biquad);
4  if (!toggleDelayBypass()) effects.push(delay);
5  if (!toggleReverbBypass()) effects.push(convolver);
6
7  if(effects.length == 0)
8      source.connect(context.destination);
9
10 else {
11     source.connect(effects[0]);
12     for(var i =1;i < effects.length;i++)
13         effects[i-1].connect(effects[i]);
14
15     effects[effects.length - 1].connect(context.destination);
16 }
```

Additionally, I add handler functions in order to turn on/off effects during the music play as following.

```
1  function toggleFilterBypass(e){
2      if(source == null) return;
3
4      if( isFilterBypass() ) {
5          biquad.disconnect();
6      }
7
8      cascadeEffect();
9  }
```

#2. Adding more room impulse responses

Specification of three impulse responses is as following.

	Type	Room size	RT60	Link
St. Patrick church	church	8000 m ³	1.86s	~/st-patricks-church-patrington
Sport centre	hall	9000 m ³	6.52s	~/sports-centre-university-york
St.Mary church	church	47000 m ³	12.29s	~/st-marys-abbey-reconstruction

#3. Using microphone input

It requires to get stream from audio input. At project #2-1 instead of audio source simply alter to microphone input.

```
1  // get audio input streaming
2  navigator.getUserMedia({audio: true}, onStream, onStreamError)
3
4  // successCallback
5  function onStream(stream) {
6      var input = context.createMediaStreamSource(stream);
7
8      // connecting the three audio effects
9      var effects = [];
10     if (!toggleFilterBypass()) effects.push(biquad);
11     if (!toggleDelayBypass()) effects.push(delay);
12     if (!toggleReverbBypass()) effects.push(convolver);
13
14     if(effects.length == 0)
15         input.connect(context.destination);
16     . . .
17 }
```