

# Dramalab

**#2**  
Dramalab  
Session

21.03.15 - SER **C1.06**  
14:00 - 19:00

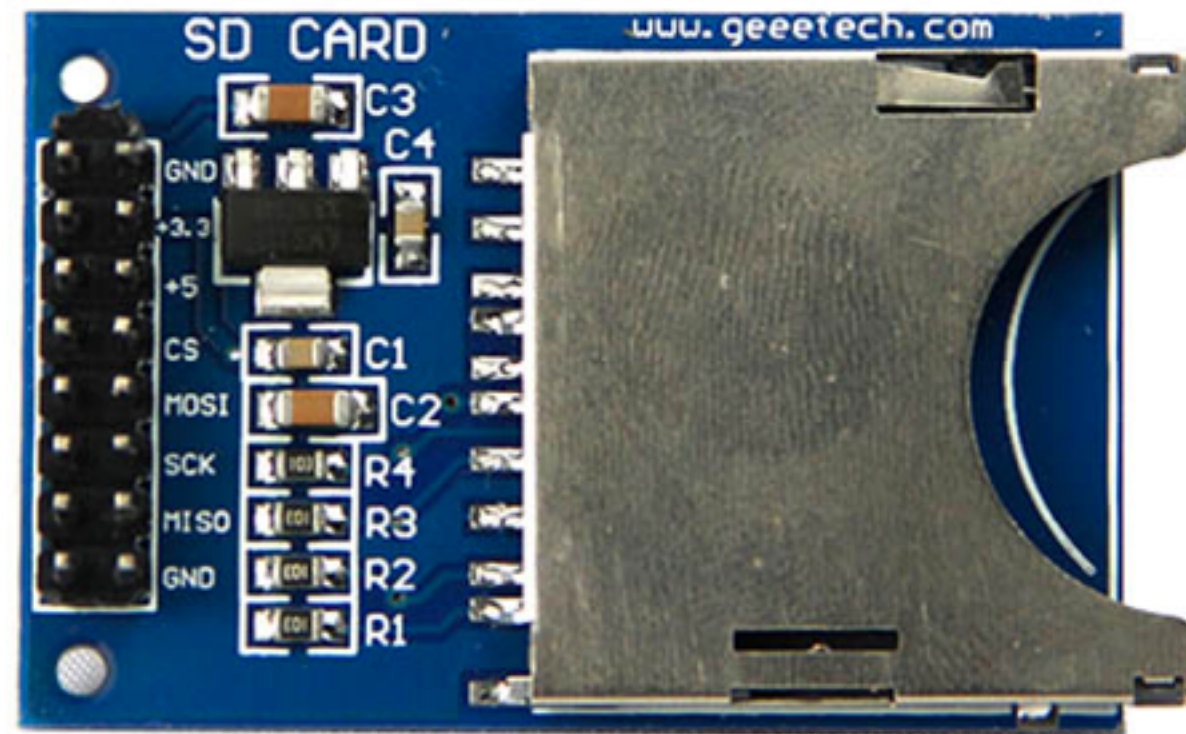


ENJOY ONE MORE PROJECT BASED SESSION:  
CREATE AN EMBEDDABLE MP3 PLAYER  
WITH ARDUINO & PROCESSING

# Today

# playing sound files

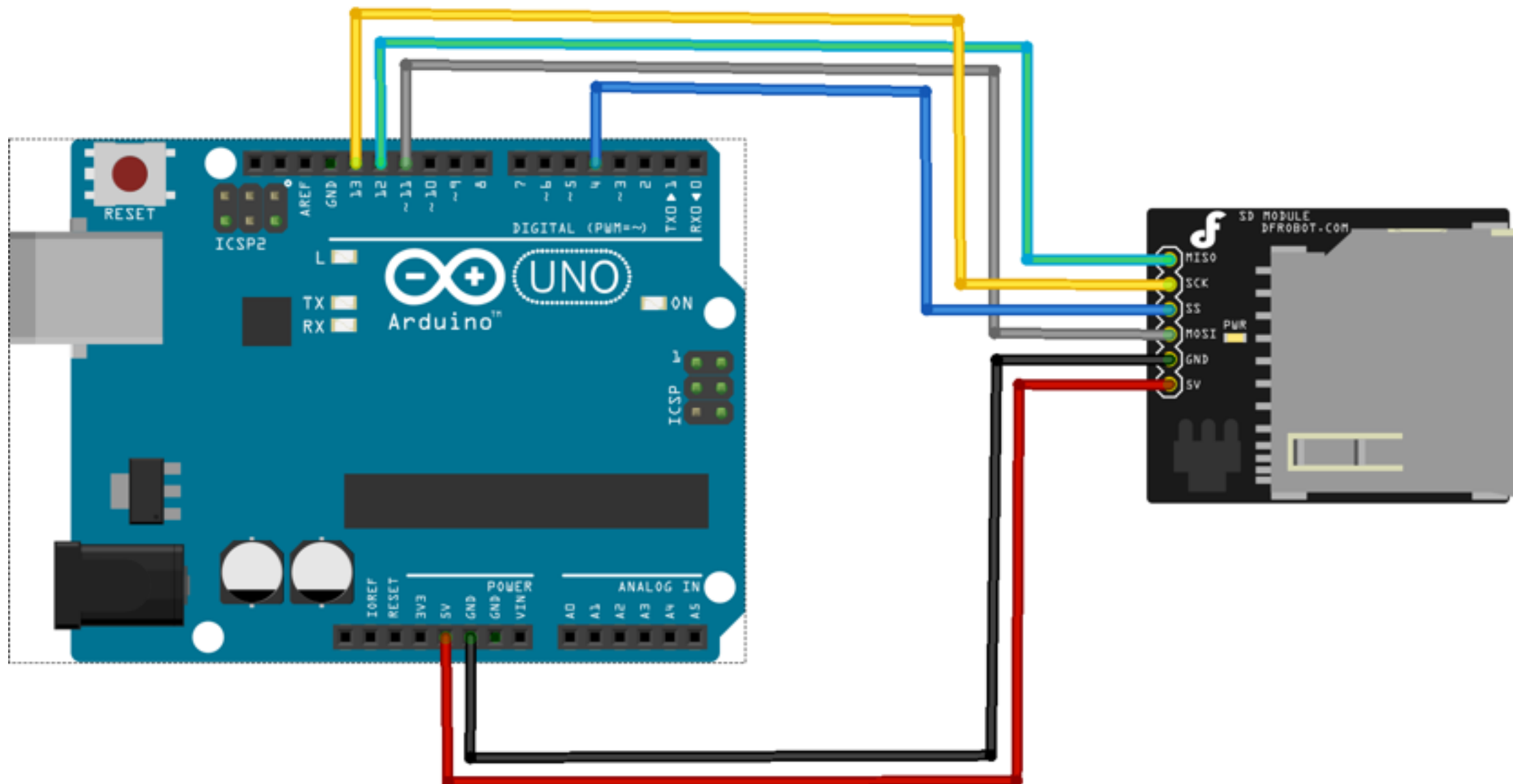
# SD-Shield



# SD-Shield

- Library to : read & write files, create and delete files and folders
- FAT16 and FAT32 supported, use FAT16 when possible
- Filenames: 8.3 convention

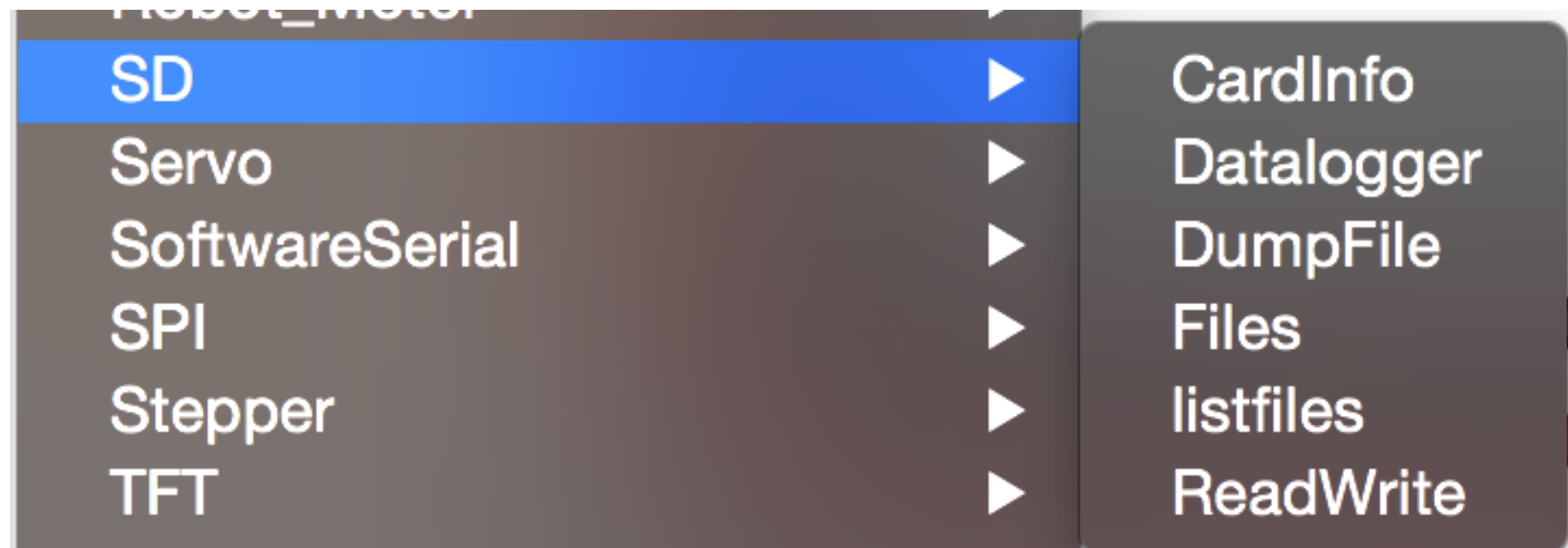
# SD-Shield



Made with  Fritzing.org


# SD-Shield

Arduino examples:






# SD-Shield


play with:


 branch: **master** ▾


[DramaStuff](#) / [session9](#) / [code](#) / **DramaLab\_SDCard** /


 

















SD-Shield demo code

 **maxstricker** authored 29 seconds ago latest commit 60c04bf626 

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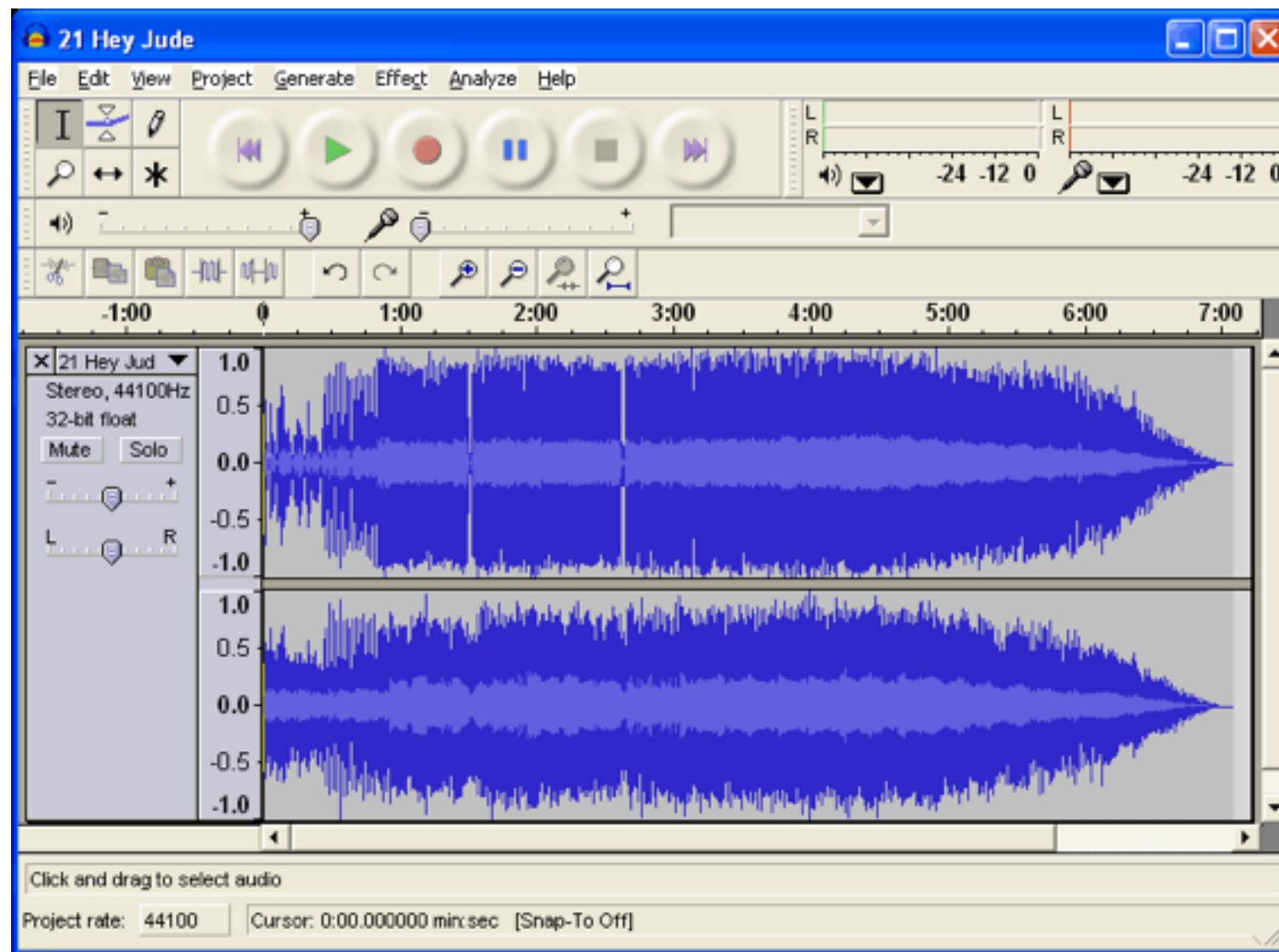
 [DramaLab\\_SDCard.ino](#) SD-Shield demo code 27 seconds ago

# SD-Shield + Audio

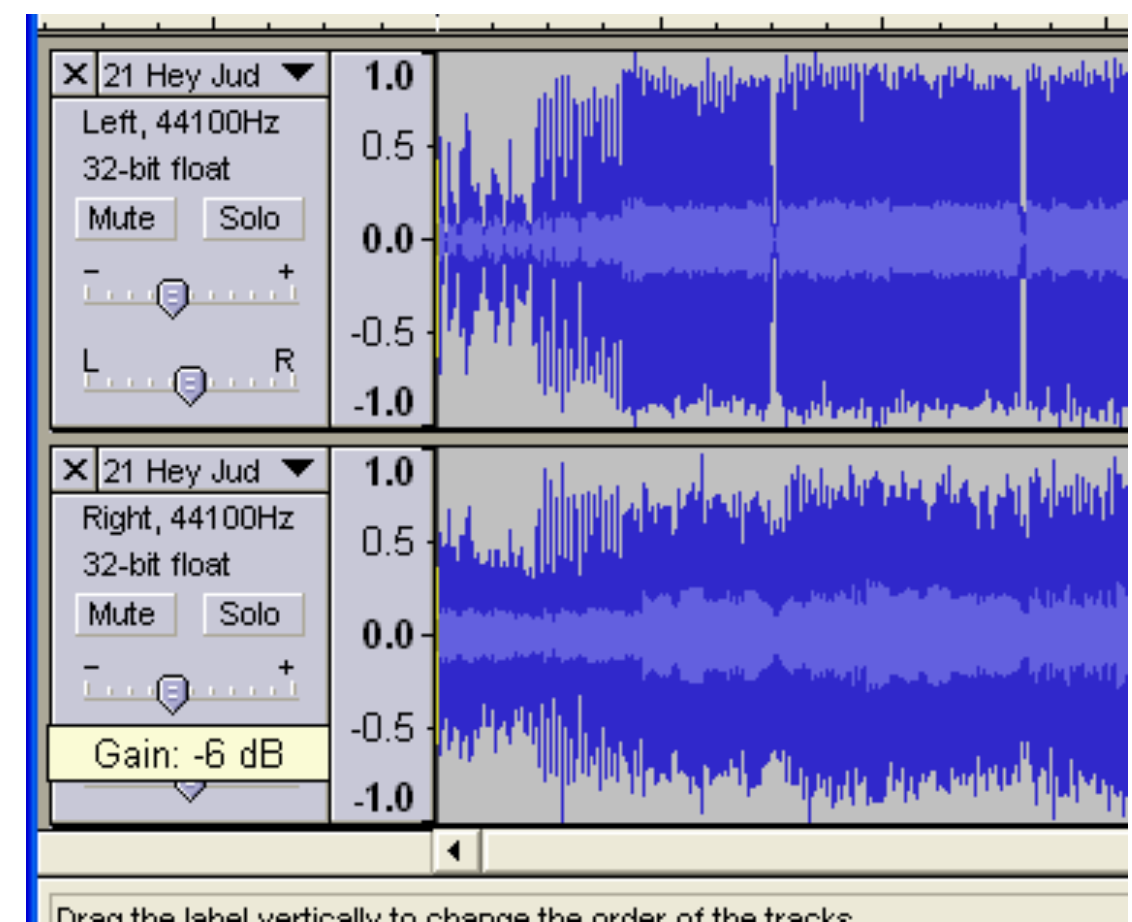
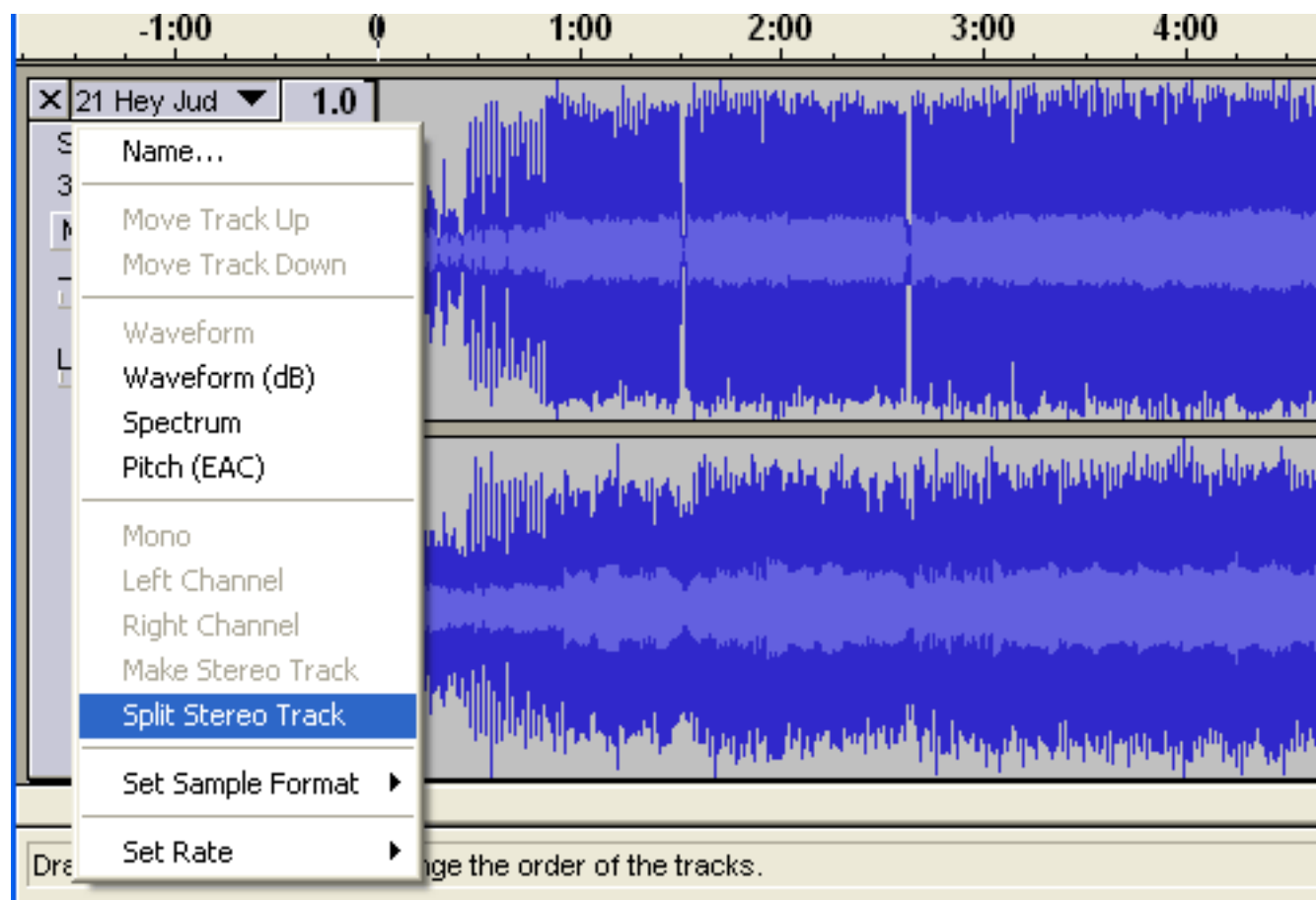
- Preparation:
  - convert Audio file to wav, 8bit, 8-32khz, mono
  - place on SD-card, 8.3 filename



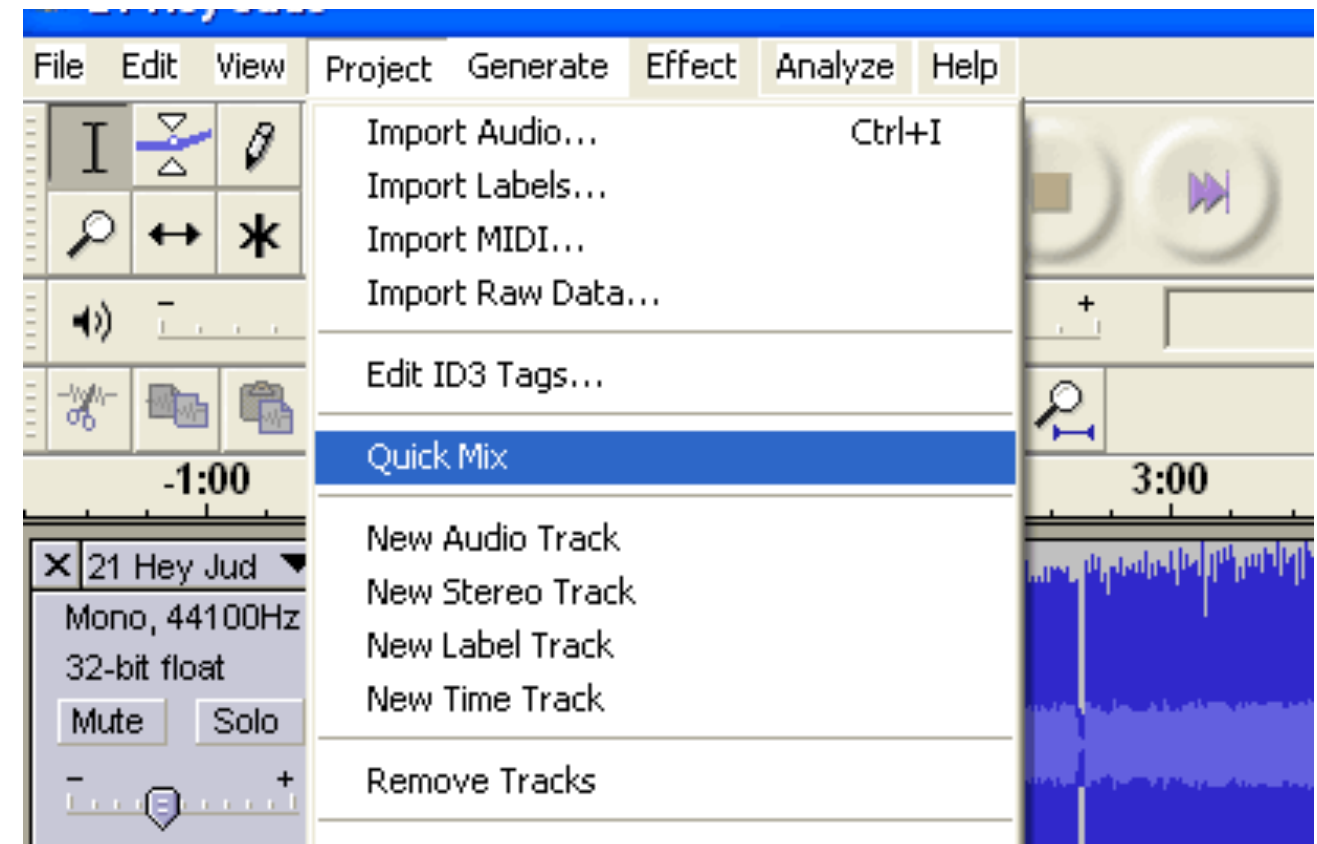
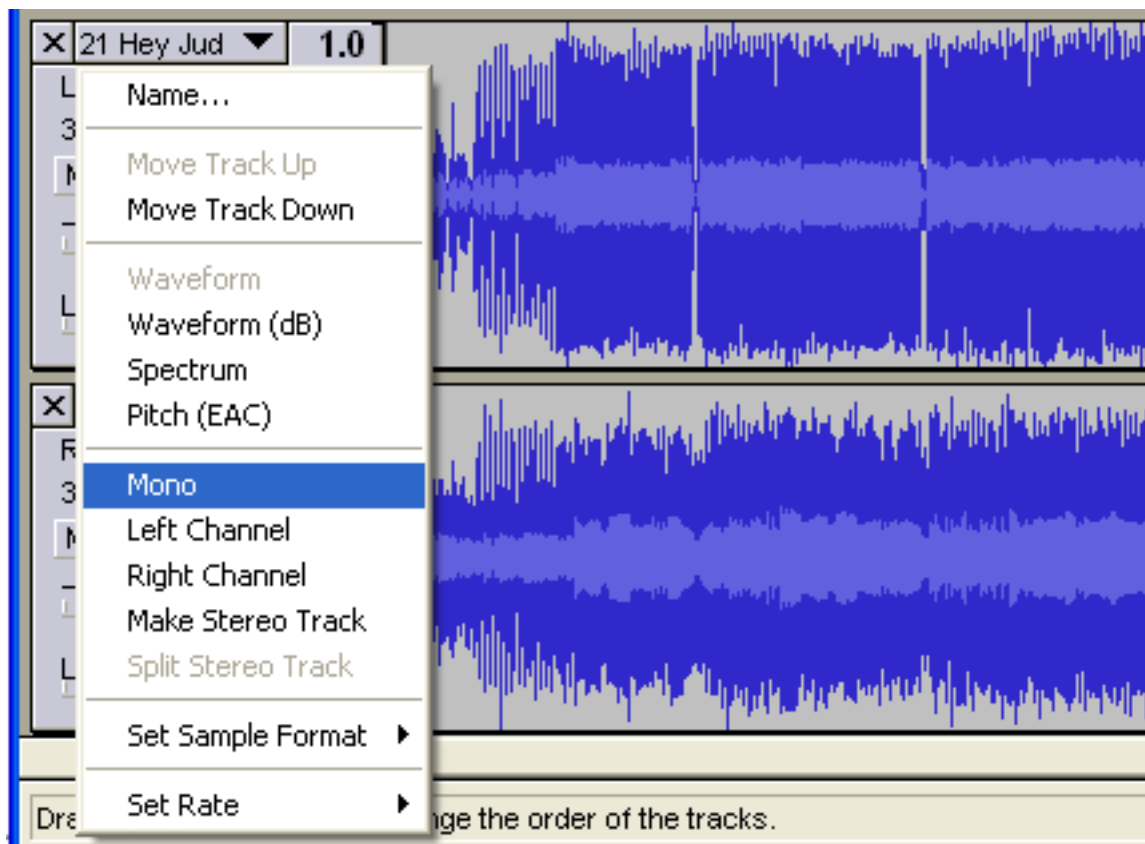
# SD-Shield + Audio



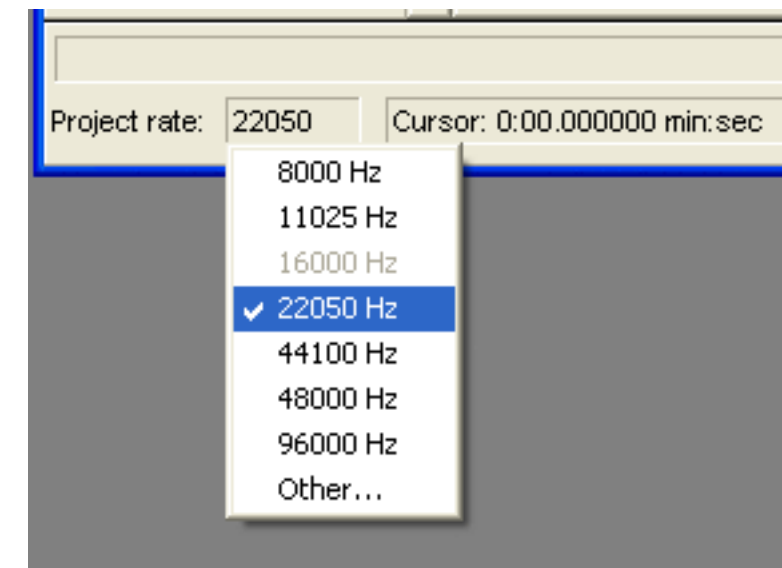
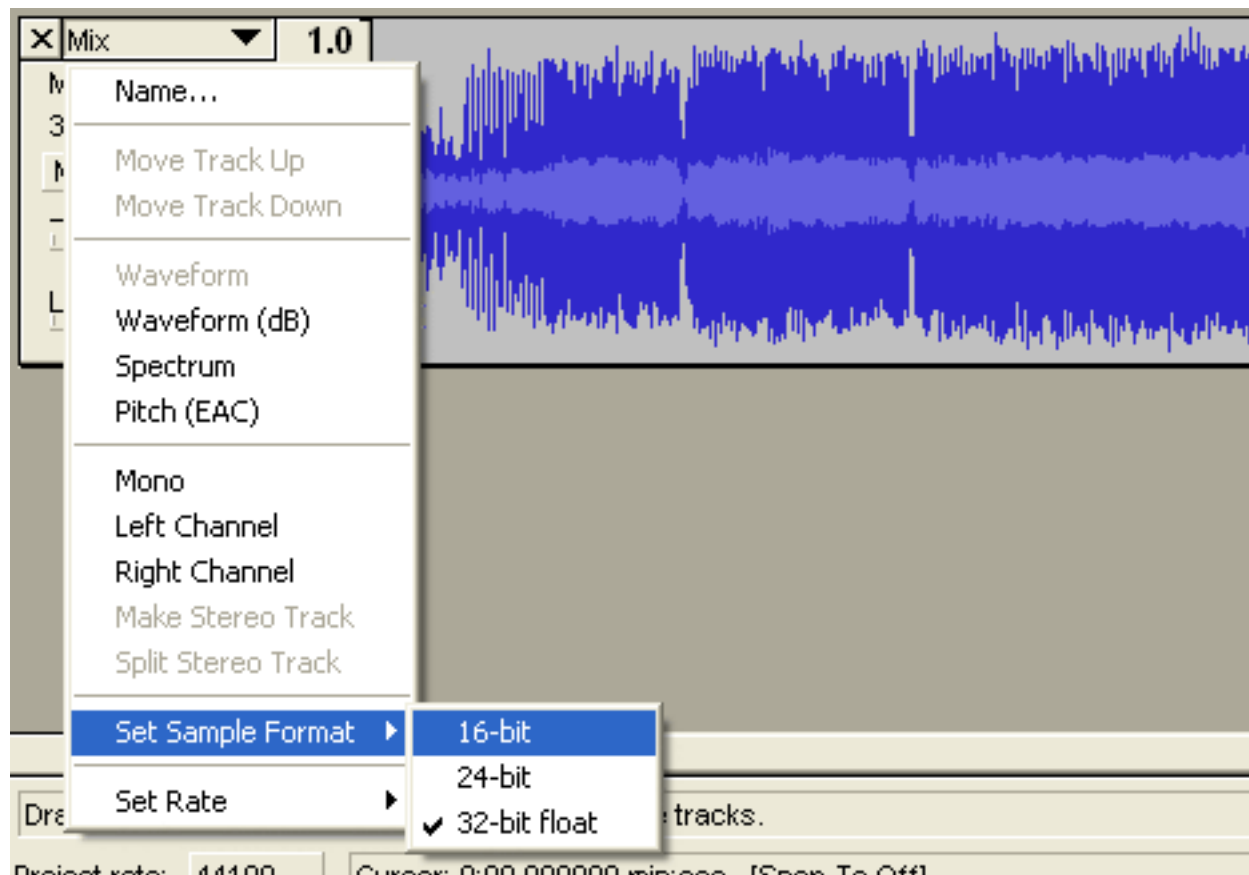
# SD-Shield + Audio



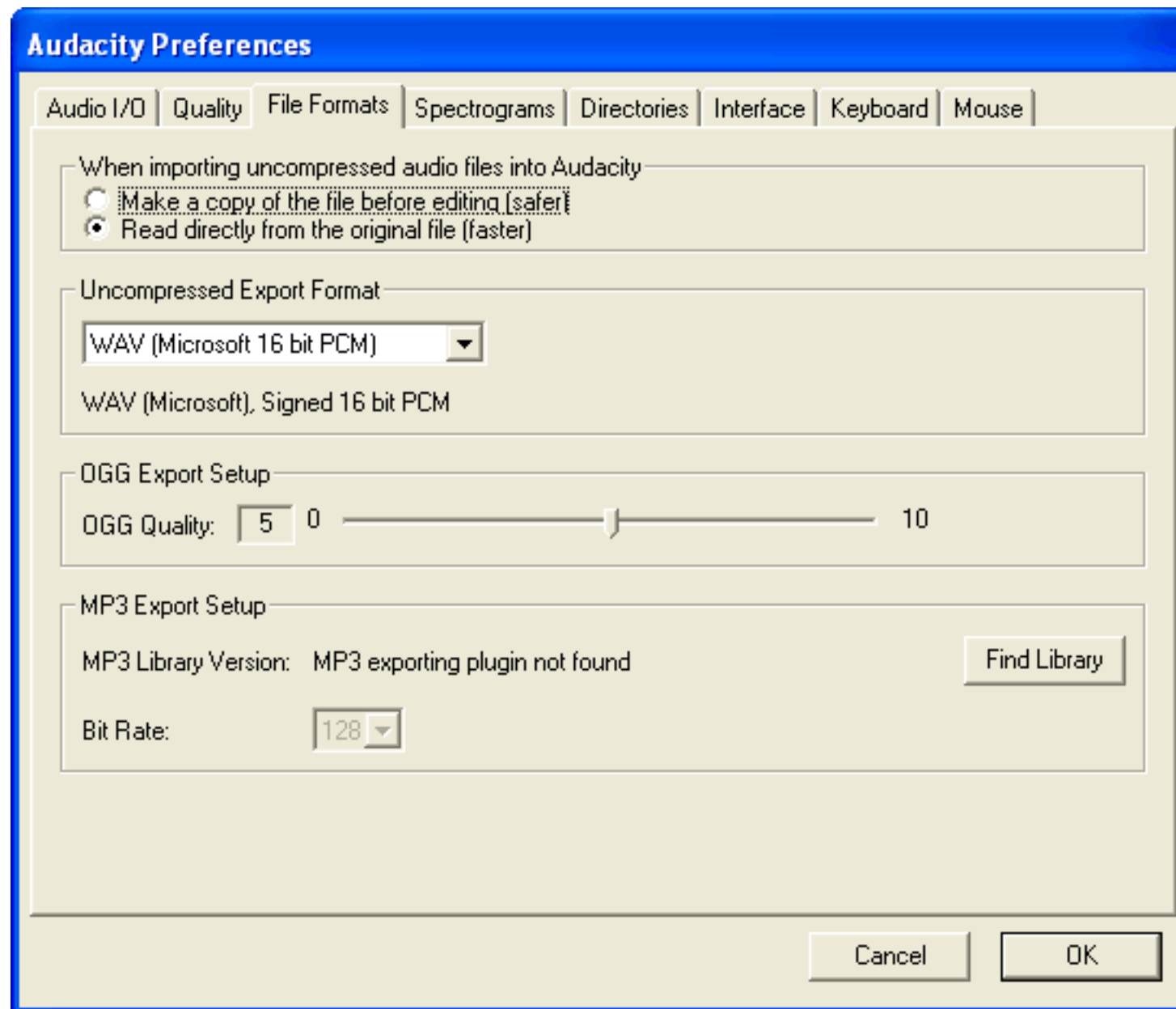
# SD-Shield + Audio



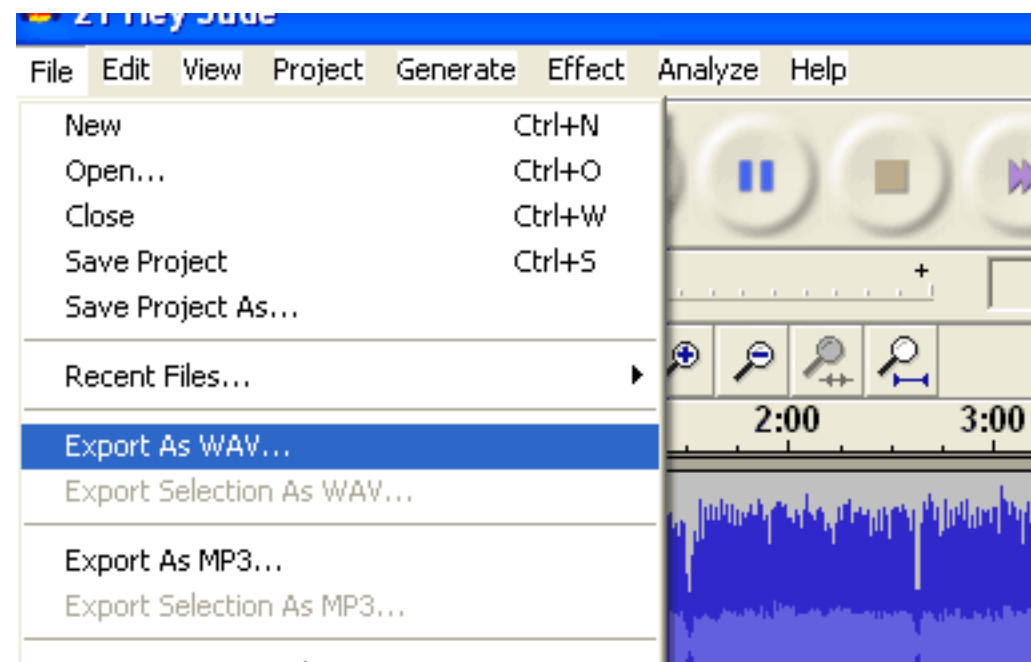
# SD-Shield + Audio



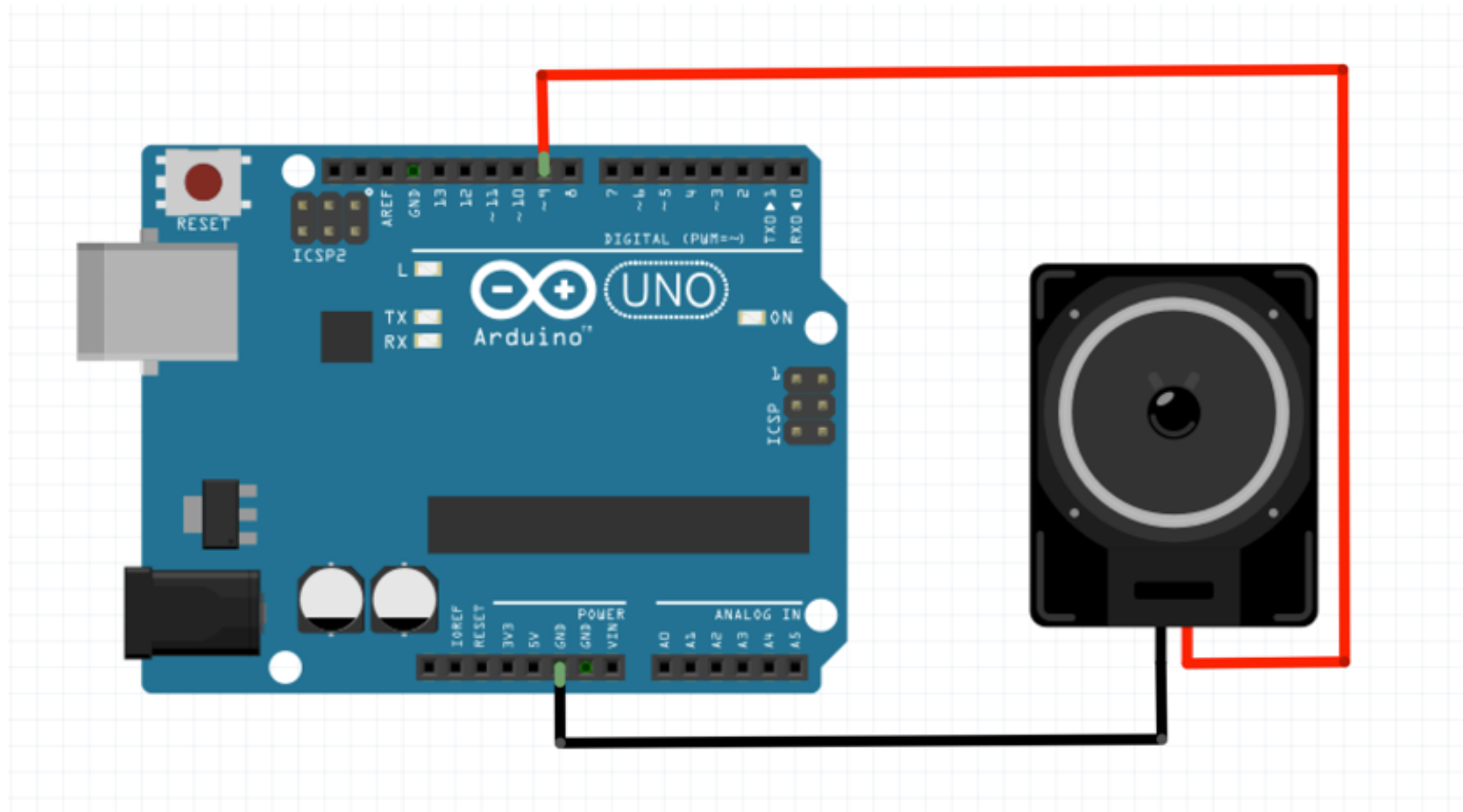
# SD-Shield + Audio



# SD-Shield + Audio



# SD-Shield + Audio



# SD-Shield + Audio

branch: master

[DramaStuff](#) / [session9](#) / [code](#) / [DramaLab\\_SDCardAudio](#) / **DramaLab\_SDCardAudio.ino**

 **maxstricker** 3 minutes ago sd card plus audio code

1 contributor

56 lines (48 sloc) | 1.689 kb

Raw Blame History

```
1  /* DramaLab_SDCardAudio:
2     * Plays a wav file found on a SD card using an LM386-based amplifier circuit
3     *
4     * http://dramalab.unibz.it/
5     * Max Stricker, 21.03.2015
6     */
7
```



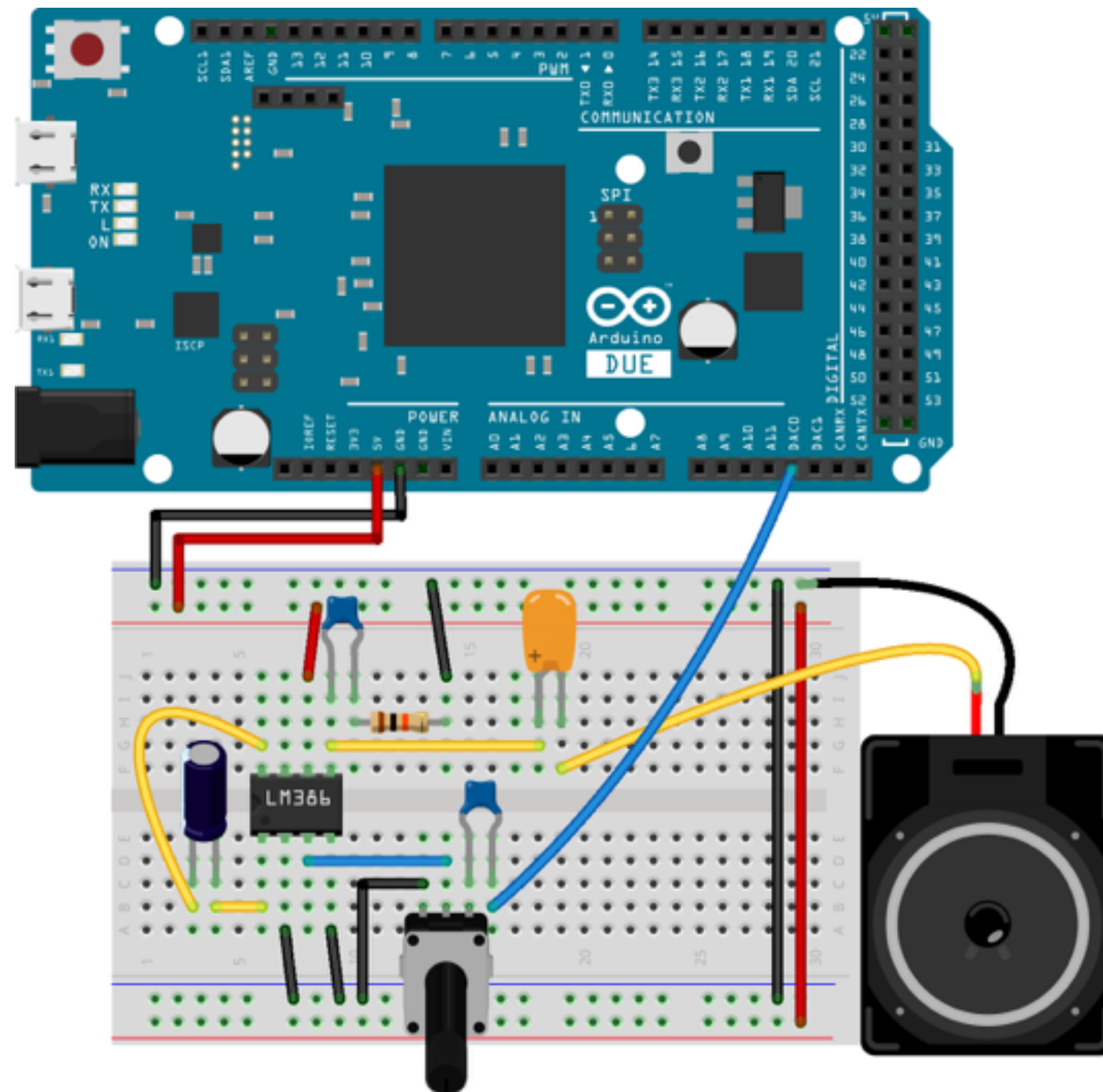
# SD-Shield + Audio

```
26 Serial.println("Type 'a' to play a song.");
27 }
28
29 void loop(){
30   if(Serial.available()){
31     mychar = Serial.read();
32     if(mychar == 'a'){ //send the letter a over the serial monitor to start playback
33       Serial.println("1.wav");
34       tmrpcm.play("1.wav");
35       /* Available Commands:
36         tmrpcm.play("filename");      plays a file
37         tmrpcm.play("filename",30);    plays a file starting at 30 seconds into the track
38         tmrpcm.speakerPin = 11;        set to 5,6,11 or 46 for Mega, 9 for Uno, Nano, etc.
39         tmrpcm.disable();              disables the timer on output pin and stops the music
40         tmrpcm.stopPlayback();         stops the music, but leaves the timer running
41         tmrpcm.isPlaying();           returns 1 if music playing, 0 if not
42         tmrpcm.pause();               pauses/unpauses playback
43         tmrpcm.quality(1);            Set 1 for 2x oversampling
44         tmrpcm.volume(0);             1(up) or 0(down) to control volume
45         tmrpcm.setVolume(0);          0 to 7. Set volume level
46         tmrpcm.loop(1);               0 or 1. Can be changed during playback for full control of looping.
47       */
48     }
49   }
50 }
51
```

# SD-Shield + Audio

**Directly connecting  
speakers is bad!**

# SD-Shield + Audio





# Integrated MP3-Shields




# Integrated MP3-Shields






branch: **master** ▾ **DramaStuff** / **session9** / **code** / **DramaLab\_MP3Shield** / ⋮ 🔄

**MP3 Shield Demo Code**

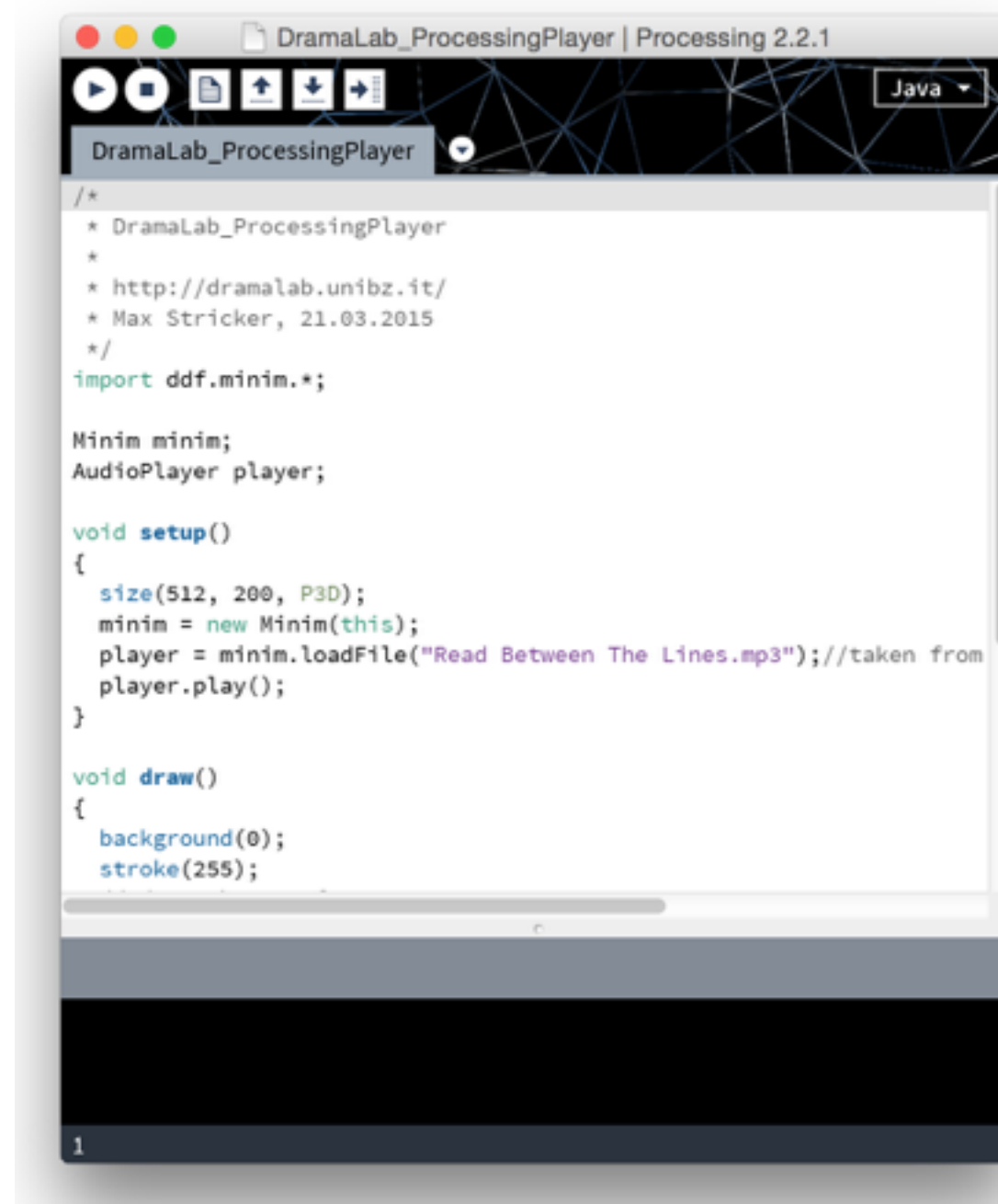
 **maxstricker** authored 30 seconds ago latest commit f9d4b551ff 

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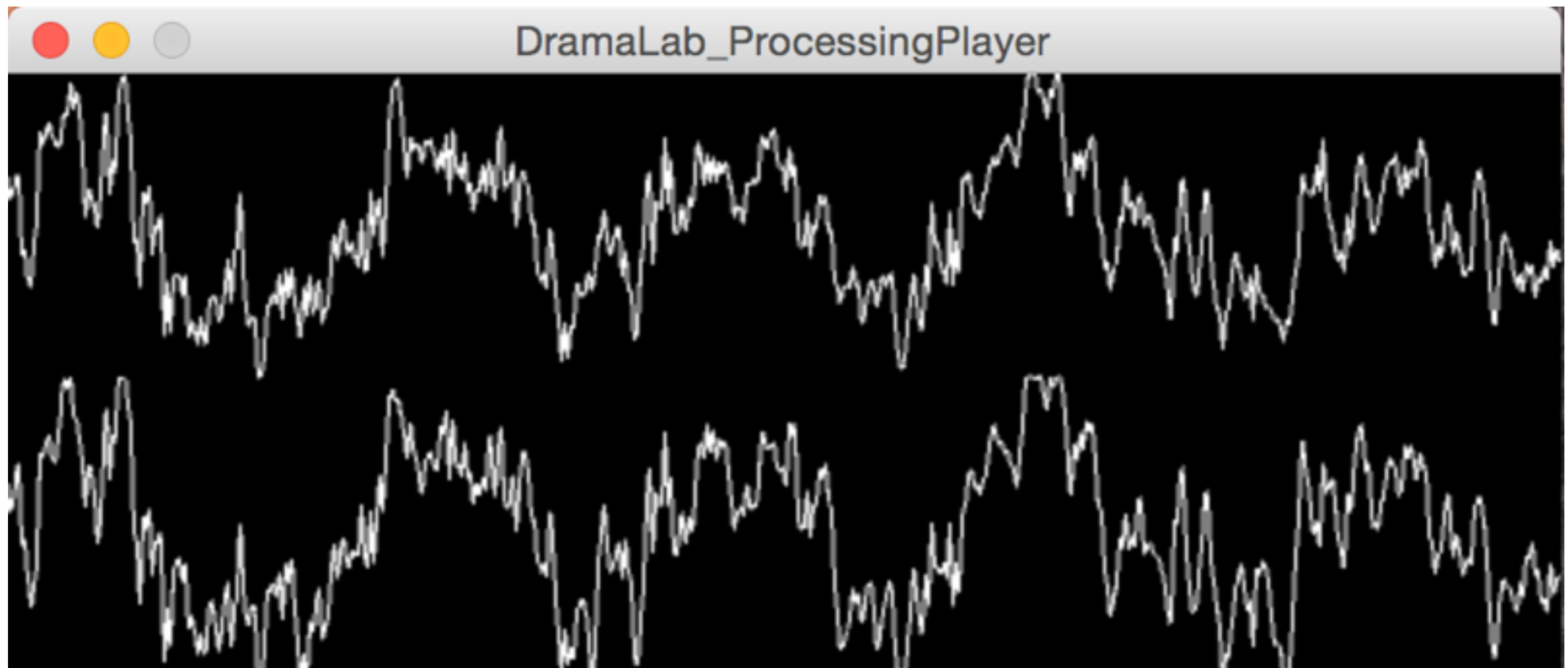
 <a href="#">DramaLab_MP3Shield.ino</a>	MP3 Shield Demo Code	30 seconds ago
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⏮     

# Processing-Player



# Processing-Player



# Want more?

Use buttons to create a small audio-player (play, pause, next, ...)

Use sensors!