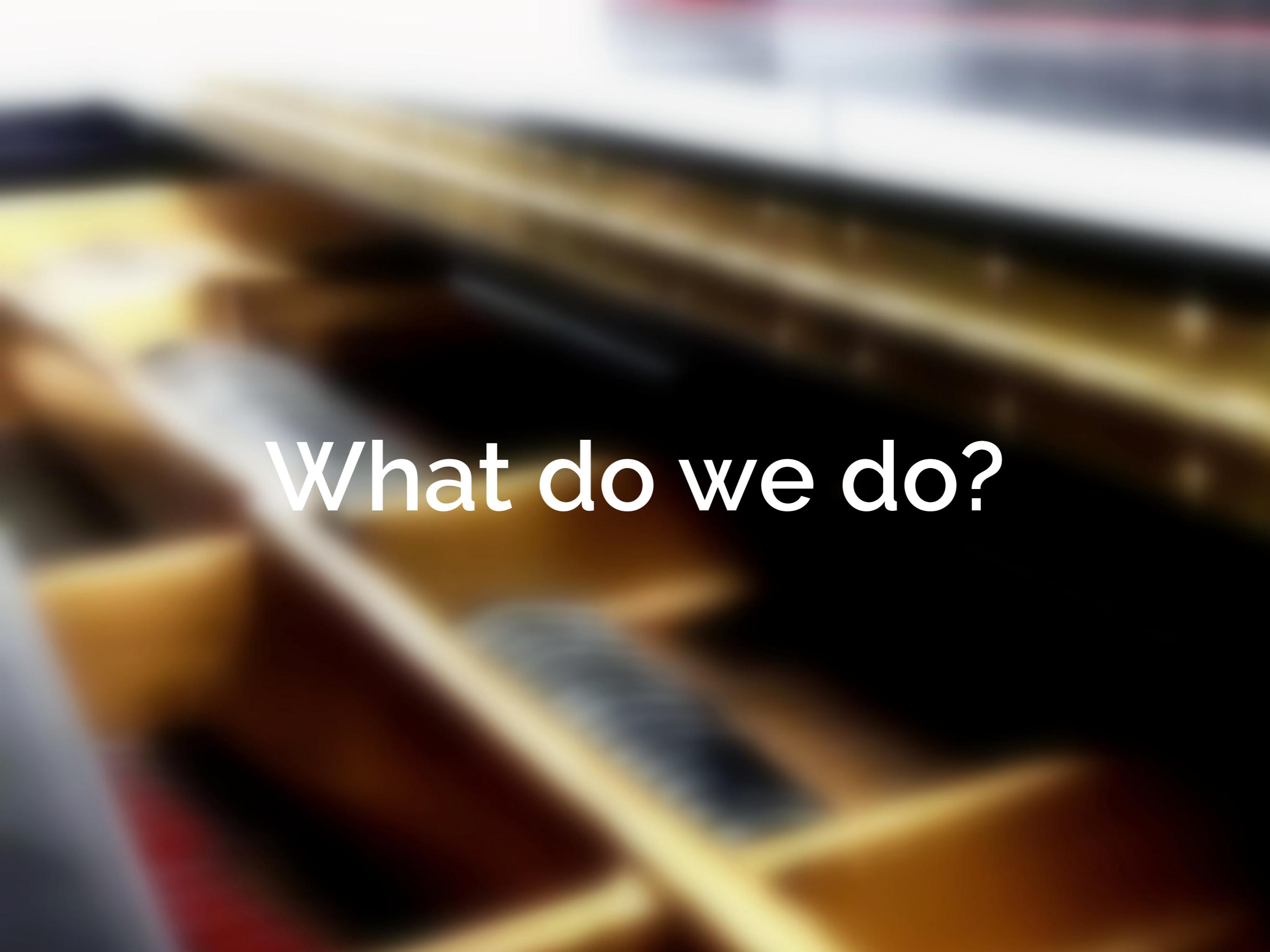


Mezzo

Next Generation Ear-Training

The background of the slide is a blurred photograph of a landscape. It features a dark, curved bridge or archway in the foreground, leading towards a body of water. The sky above is a mix of soft blues, yellows, and oranges, suggesting either sunrise or sunset. The overall effect is dreamlike and atmospheric.

What do we do?

Ear-Training

Recognizing Intervals

Recognizing Melodies

Why?



MacGAMUT
Music Software International

**ORDER
ONLINE**

**REGISTER
ONLINE**

WELCOME

Home
About Us
MacGAMUT 6
MFun
Register
Order
Demos
Installers
Tech Support
FAQs
Reviews
Contact Us



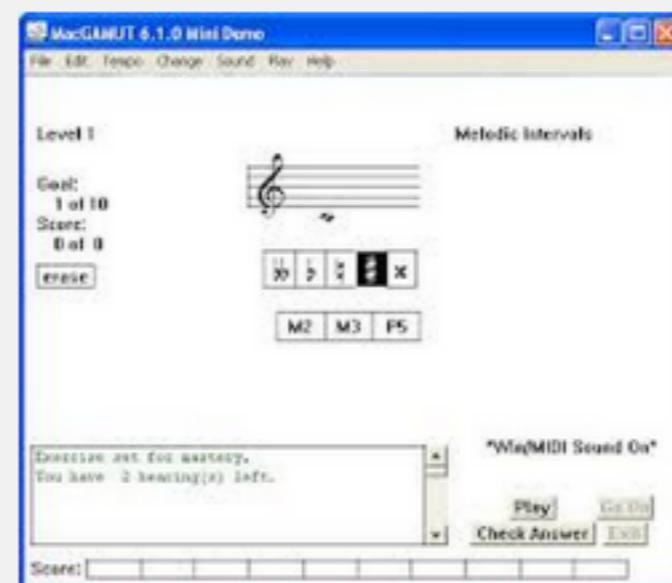
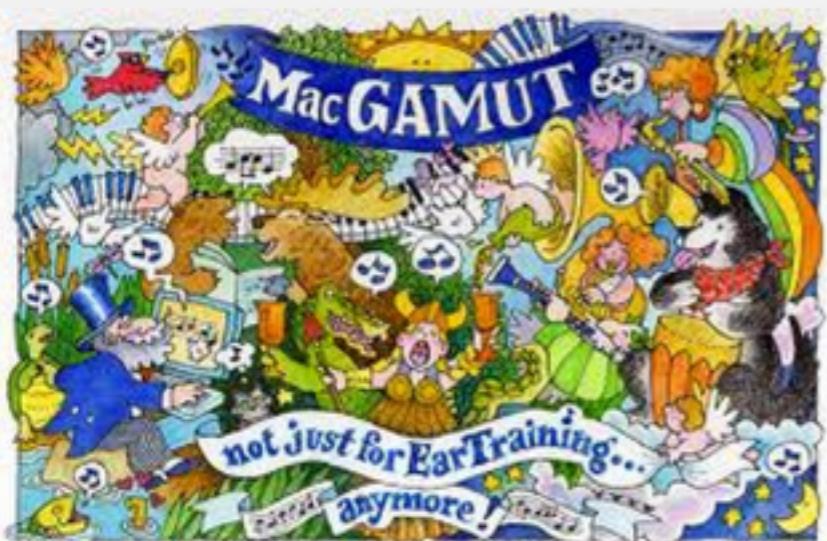
[Privacy Policy](#) [Terms of Use](#)



for Mac and Windows!

NOTE: The MacGAMUT website and the services we use to process your credit/debit card when you order from us are not vulnerable to the Heartbleed bug. As always, all of your info is safe with us!

Order Online Now



these chords. The half diminished chord can be shown with the i⁶

$C\min7 \quad Cm7(\flat 5) \quad C^{\#}7$

triad; the second, the quality of the 7th.

Bach's
Cello Suite No. 1, 1st mvt.
Tempo: 120 BPM, Articulation: Legato

1. Main

2. Main

3. Main

4. Main

Check Name and Presets

Your name: Sebastian Birch

You last used this start2003 file on: 02/04/04
*** Is this the last time you used MacGAMUT? ***

Current presets file: Original Presets 2003.mgp

If all the info is correct, click OK. To install a different presets file, click CHANGE PRESETS. If your name or last use date is wrong, click NO.

OK NO CHANGE PRESETS

Correct Answer

Re	Mi	Fa	Sol	La	Si	Do
III						

Figure 9. CASPAR Progress Report

Click on score key for reference page or return to CASPAR

CASPAR Progress Report

Difficulty: Medium (1, 2, 3)

Score: 100% (100% accuracy, 100% execution of chords for perfect note, 100% note for note ratio)

Mode	Re	Mi	Fa	Sol	La	Si	Do
Major	100%	100%	100%	100%	100%	100%	100%
Minor	100%	100%	100%	100%	100%	100%	100%
Harmonic Minor	100%	100%	100%	100%	100%	100%	100%
Dorian Mode	100%	100%	100%	100%	100%	100%	100%
Phrygian Mode	100%	100%	100%	100%	100%	100%	100%
Lydian Mode	100%	100%	100%	100%	100%	100%	100%
Mixolydian Mode	100%	100%	100%	100%	100%	100%	100%
Aeolian Mode	100%	100%	100%	100%	100%	100%	100%
Locrian Mode	100%	100%	100%	100%	100%	100%	100%
Score	100%	100%	100%	100%	100%	100%	100%
Total Score	100%	100%	100%	100%	100%	100%	100%

Diatonic mode - same as the natural major, but with a raised 5th scale degree ("Tonic" 6th)

Plagal mode - same as the natural minor, but with a lowered 2nd scale degree ("Tonic" 2nd scale degree)

Lydian mode - same as major with raised 4th scale degree ("Tonic" 5th scale degree)

Mixolydian mode - same as major, but with lowered 7th scale degree ("Tonic" 7th scale degree)

MFun
Music Fundamentals

As edited by
Elizabeth Sayres

Published by
MacGAMUT
Music Software International
www.macgamut.com

Identify the rhythm

Yes Repeat Give up Backspace

The Online, Free Ear Training on the Net

[Ear Trainer](#) [About](#) [Links](#) [Home](#)

0 right of 0

cadences bass

- I IV I
- I VI I
- I IV VI
- I II VI
- I VI IV V
- I VI II V
- I III IV V

Submit

What We Do Better

Usable Design

Clean Functionality

Sign in!

Username

Password

Our Market

Use for classes

Individual musicians

Start at Princeton?

Let's try it!

Go

The Stack

Hosting/Code

Heroku

GitHub

Why Heroku?

Fast deployment

Excellent support

Why GitHub?

It works

Mostly

It didn't make us cry

(probably)

Framework

Django

HTML5

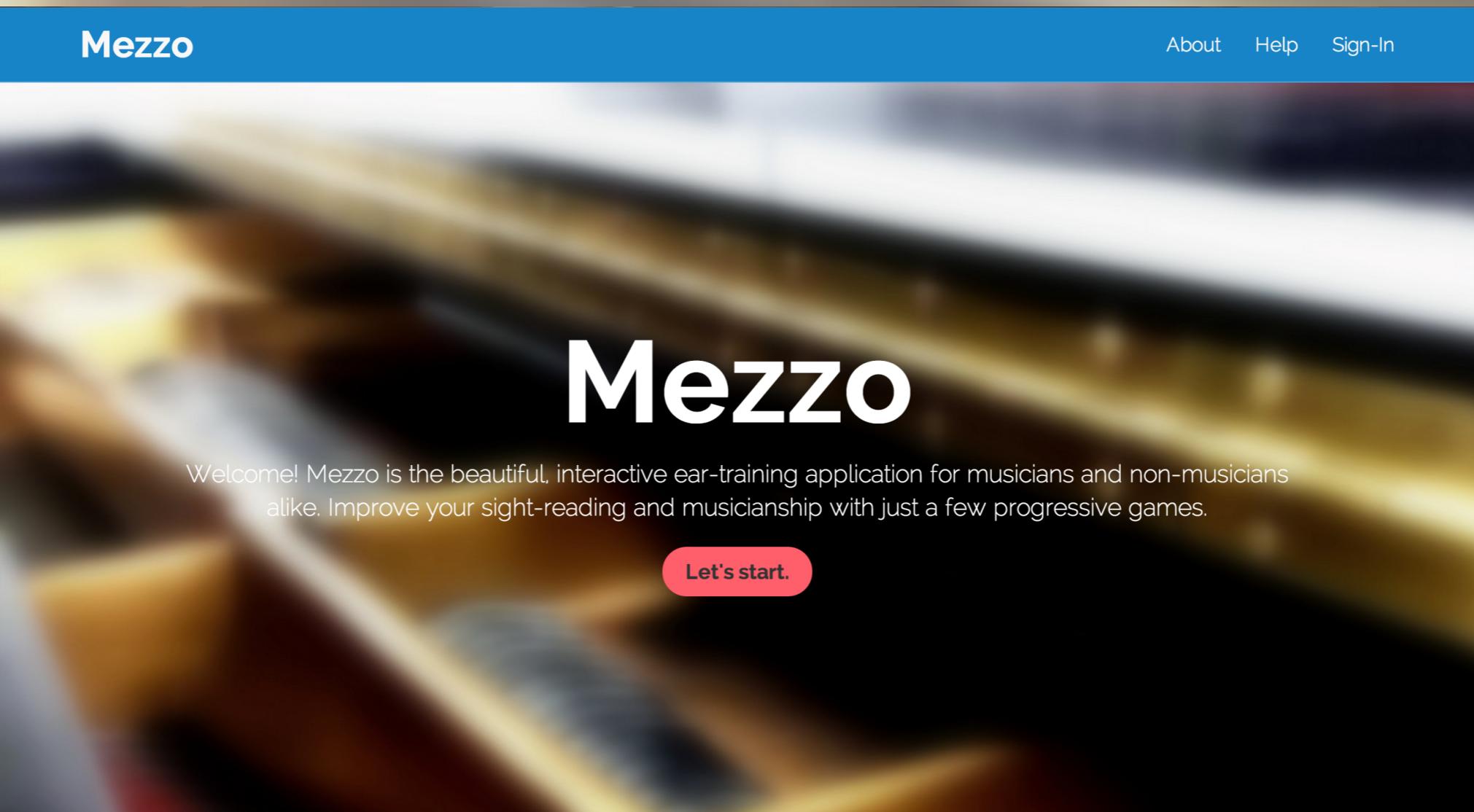
CSS3

Why Django?

Good interface with Heroku

Python control flow

Why HTML5?



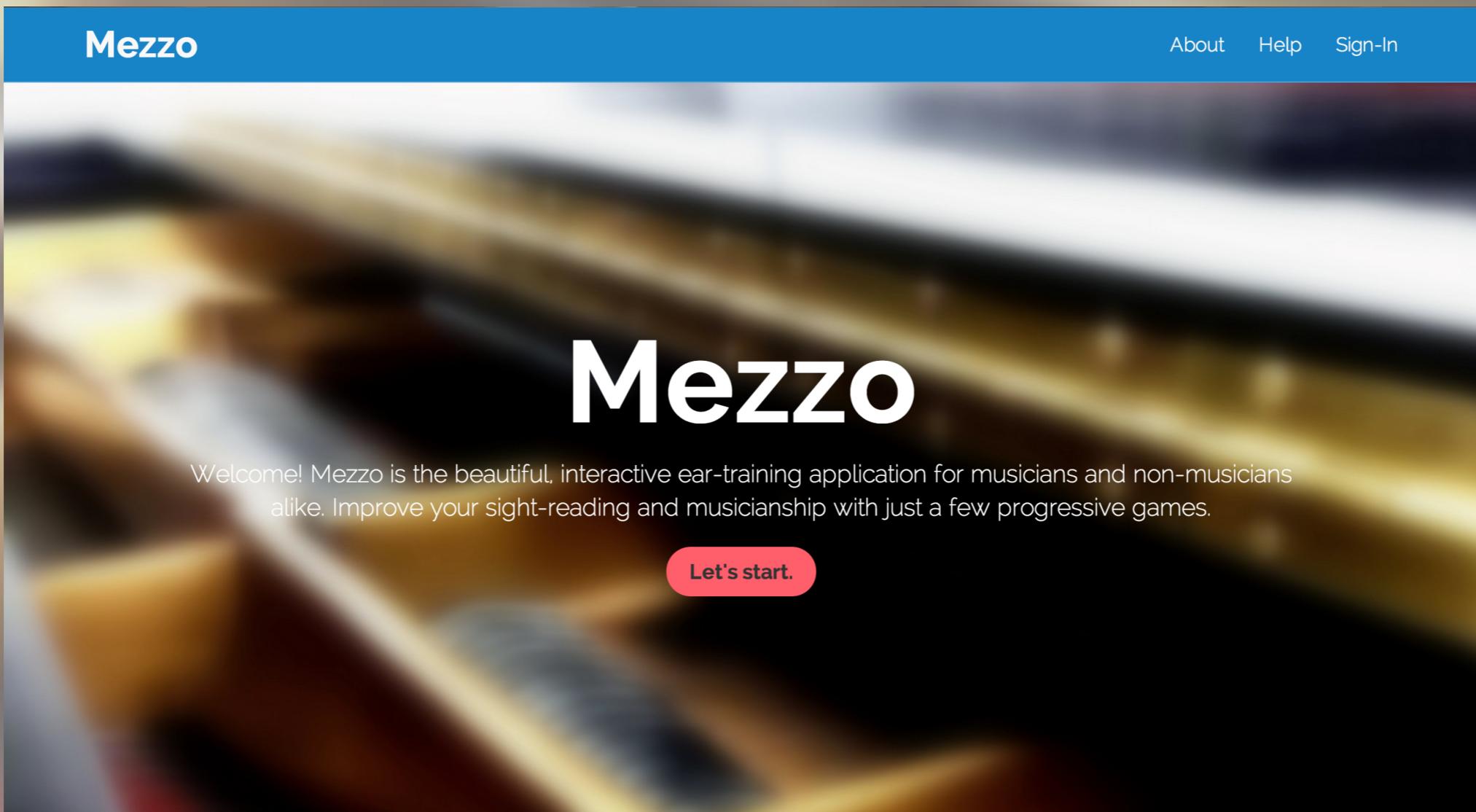
The image shows a screenshot of the Mezzo application's user interface. At the top, there is a blue header bar with the word "Mezzo" in white on the left and "About"、"Help"、"Sign-In" in white on the right. Below the header is a large, blurred background image of a classical piano keyboard. In the center of the screen, the word "Mezzo" is displayed in a large, bold, white sans-serif font. Below this, a paragraph of text reads: "Welcome! Mezzo is the beautiful, interactive ear-training application for musicians and non-musicians alike. Improve your sight-reading and musicianship with just a few progressive games." At the bottom center is a pink rounded rectangular button with the text "Let's start." in white.

Mezzo

Welcome! Mezzo is the beautiful, interactive ear-training application for musicians and non-musicians alike. Improve your sight-reading and musicianship with just a few progressive games.

Let's start.

Why CSS3?

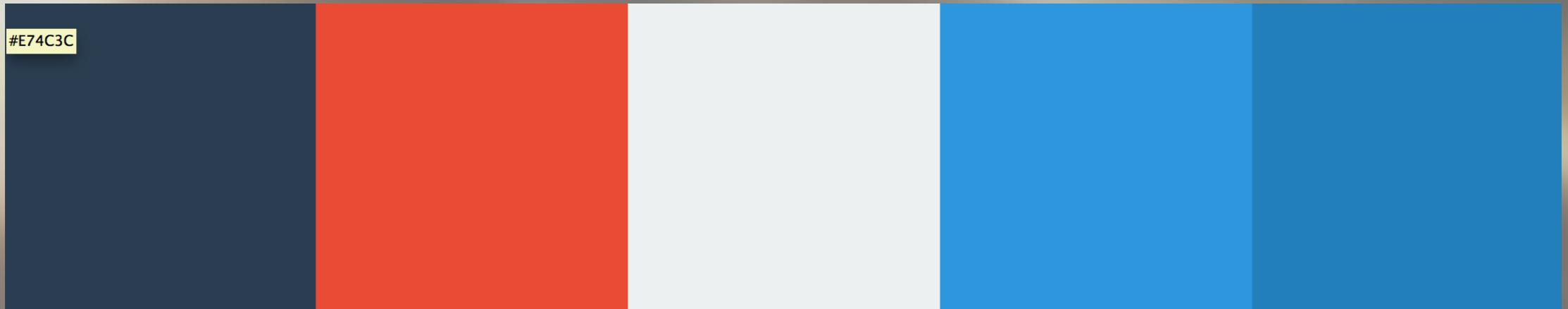


The image shows a screenshot of the Mezzo application's user interface. At the top, there is a blue header bar with the word "Mezzo" in white on the left and "About"、"Help"、"Sign-In" in white on the right. Below the header is a large, blurred background image of a classical piano keyboard. In the center of the screen, the word "Mezzo" is displayed in a large, bold, white sans-serif font. Below this, a paragraph of text reads: "Welcome! Mezzo is the beautiful, interactive ear-training application for musicians and non-musicians alike. Improve your sight-reading and musicianship with just a few progressive games." At the bottom center is a pink rounded rectangular button with the text "Let's start." in white.

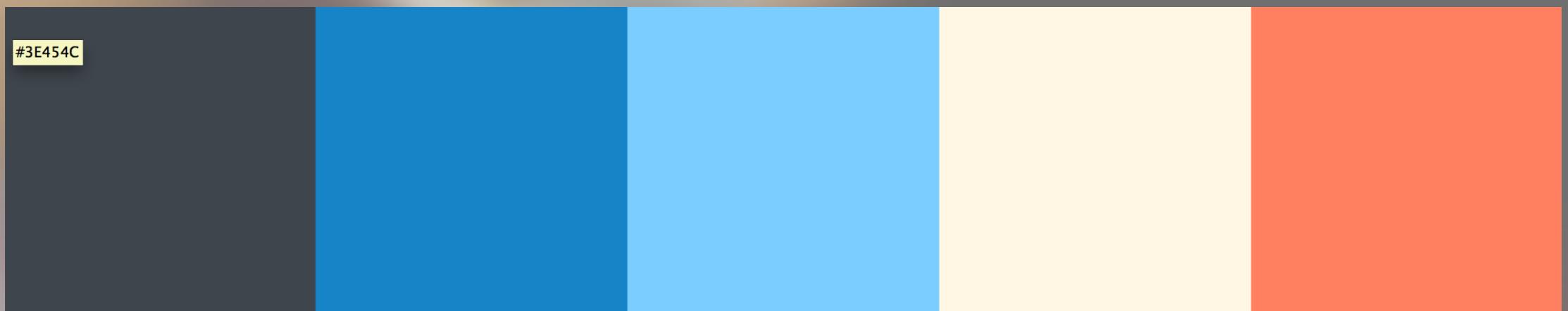
Why this design?

We aren't designers.

Different Opinions On



Color Scheme



Hooray Bootstrap!

Based on Cover template mostly

Rebranding

Name

Aesthetic

Educational vs. Tech

Music Technologies

VexFlow

HTML Audio

RiffWave

Why VexFlow?

```
var canvas = $("div.two div.a canvas")[0];
var renderer = new Vex.Flow.Renderer(canvas,
  Vex.Flow.Renderer.Backends.CANVAS);

var ctx = renderer.getContext();
var stave = new Vex.Flow.Stave(10, 0, 500);
stave.addClef("treble").setContext(ctx).draw();

// Create the notes
var notes = [
  // A quarter-note C.
  new Vex.Flow.StaveNote({ keys: ["c/4"], duration: "q" }),

  // A quarter-note D.
  new Vex.Flow.StaveNote({ keys: ["d/4"], duration: "q" }),

  // A quarter-note rest. Note that the key (b/4) specifies the vertical
  // position of the rest.
  new Vex.Flow.StaveNote({ keys: ["b/4"], duration: "qr" }),

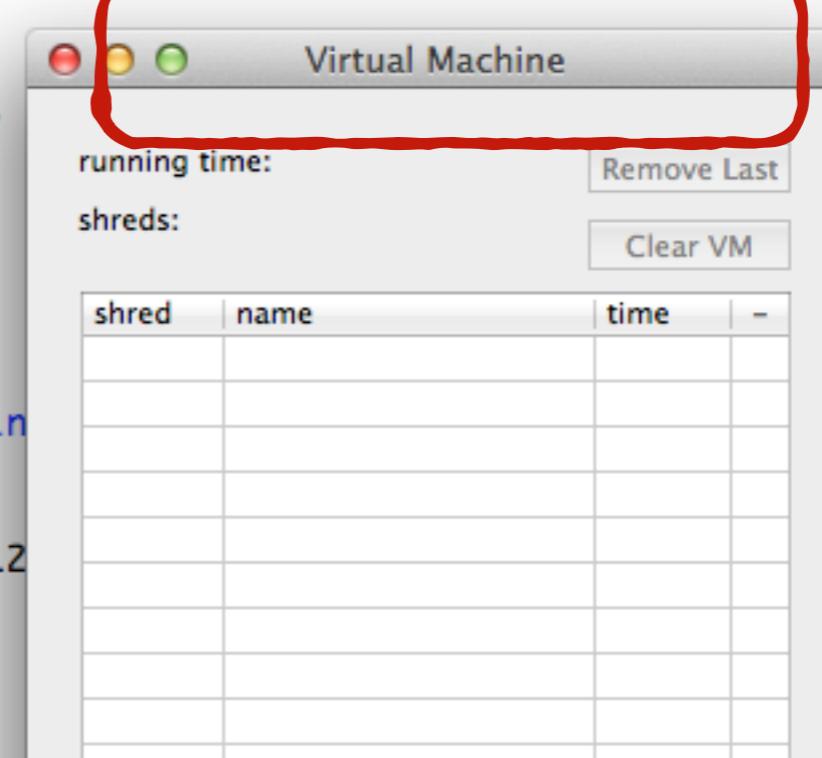
  // A C-Major chord.
  new Vex.Flow.StaveNote({ keys: ["c/4", "e/4", "g/4"], duration: "q" })
];

// Create a voice in 4/4
var voice = new Vex.Flow.Voice({
  num_beats: 4,
  beat_value: 4,
  resolution: Vex.Flow.RESOLUTION
});
```



Chuck is Too Clunky

```
25 if( me.args() )
26   me.arg(0) => Std.atoi => device;
27
28
29 //0 FOR DRUMS(input1), 1 for SAX(input3)
30 if( !hi2.openMouse( device ) ) me.exit();
31 <<< "mouse '" + hi2.name() + "' ready...", "" >>>;
32 adc.chan(0) => LiSa L1 => LPF lpf1 => Gain g1 => dac;
33 adc.chan(0) => LiSa L2 => LPF lpf2 => Gain g2 => dac;
34 adc.chan(0) => LiSa L3 => LPF lpf3 => Gain g3 => dac;
35
36 .2 => g1.gain => g2.gain => g3.gain;
37 6000. => lpf1.freq => lpf2.freq => lpf3.freq;
38 3.0 => lpf1.Q;
39 16.0 => lpf2.Q;
40 48.0 => lpf3.Q;
41
42
43 float co1, co2, co3;
44 0 => int flag0 => int flag1 => int flag2 => in
45
46
47 15::second => dur maxBuff => L1.duration => L2
48 1 => L1.loop => L2.loop => L3.loop;
49
50 0 => int play1 => int play2 => int play3;
51
```



VexFlow

HTML5 music notation rendering API, interfaces with HTML5 canvas

written entirely in javascript, runs in browser, no external dependencies

easy to use (logical from musical perspective)

alternatives (Sibelius/Finale interfacing, visual note-dropping, backend hacking) all require external dependencies

HTML5 Audio

for browser audio

used primarily to playback audio files

not best for our purposes, since we want to dynamical generate sound waves

Riffwave.js

Javascript code used to transform waveform data models into browser audio

Pulse-Code Modulation encoding for digital modeling of analog waveform

RIFF Resource Interchange File Format encoding of PCM to communicate with HTML5
audio element

alternatives (ChucK, Max/MSP) require external dependencies, virtual machines, etc.

Low Level

```
var audio = new Audio(); // create the HTML5 audio element
var wave = new RIFFWAVE(); // create an empty wave file
var data = []; // yes, it's an array

wave.header.sampleRate = 44100; // set sample rate to 44KHz
wave.header.numChannels = 2; // two channels (stereo)

var i = 0;
while (i<100000) {
    data[i++] = 128+Math.round(127*Math.sin(i/10)); // left speaker
    data[i++] = 128+Math.round(127*Math.sin(i/200)); // right speaker
}

wave.Make(data); // make the wave file
audio.src = wave.dataURI; // set audio source
audio.play(); // we should hear two tones one on each speaker
```

Database

Sqlite3

dajaxice

Sqlite3

Comes built into Django

One database for user registration and authentication

One database for user levels

Information Tracked

Difficulty Level for Intervals and Melodies

Javascript needs to know difficulty to make game



easy to use AJAX libraries for django.
fast, easy and lightweight libraries to implement AJAX
inside your django projects. Ready to use in 5 minutes.

[I want to know more!](#)

[Quick Start!](#)

dajax is a set of Ajax libraries for Django

Simplifies asynchronous communication

dajaxIce is the core of dajax

dajax just simplifies the Javascript

Not necessary because we use JQuery

What We Would Have Changed

Learned GitHub earlier

?

It seems like the first time was the hardest

Where We'd Like to Go

Add more games

More interactive user experience

Grading system for teachers