Guitar Hero for all Instruments

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For homework 3, I made a guitar hero web interface that allowed users to upload MIDI files and "play" the notes as they came down. This currently only works for one instrument. The current demo is at https://cs190-taptap.herokuapp.com/.

For the final project, I would like to make it work for a larger set of instruments and for it to work for all parts of a song. For example, in a song with drums, piano, and violin, the player will first play the song in drums, and this drum will be playing in the background as they play the piano part, and finally the drum and the piano part will both be in the background as they play the violin part. Through this, the player can be able to "play" all different instruments of any midi song.

The programming platform I will use is Web Audio (JavaScript) and I will be working by myself.

I will need to learn how to store, process, and create MIDI files for storing the users input sounds, and using the oscillator node to create generic work-for-all instruments. I plan on using https://github.com/dingram/jsmidgen, a JavaScript MIDI generator to generate MIDI files, and play them when each following instruments are in play.

Timeline:

May 22nd - Have song overlay process working with 2 instruments

May 29th - Add a "generic" instrument, test and make sure works, create documentation

June 7th - Deploy, UI changes, make sure it works for more than one user at once