

Checklist for operations to be performed by the Wumpus, by the end of 6.111

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The Wumpus sampling synthesizing keyboard should be able to

- 1: Play back a sample in response to a MIDI event
- 2: Play back a sample shifted in pitch
- 3: Change the start and end points of a sample
- 4: Implement vowel hold/sustain, with an adjustable length and location
- 5: Manually calibrate playback frequencies to correspond to usual note frequencies
- 6: Apply the echo effect to the output
- 7: Time permitting, apply the reverb effect to the output
- 8: Display a sub-sampled time-series of the sample on the VGA output
- 9: Provide visual interface for parameter adjustments
- 10: Implement greycode knobs for all relevant parameter inputs
- 11: maintain the playback length for pitch shifted outputs, if time permits
- 12: Play back the sample in loop mode
- 13: Play up to 8 notes simultaneously in keyboard mode
- 14: Play back a reference sine or square wave, to aid tuning.\*
- 15: Play back notes at varying volumes based on the MIDI encoded variable velocity, if time permits.

\*the square wave may be better since it will sound a little more like the timbre of a spoken word than a sine wave.