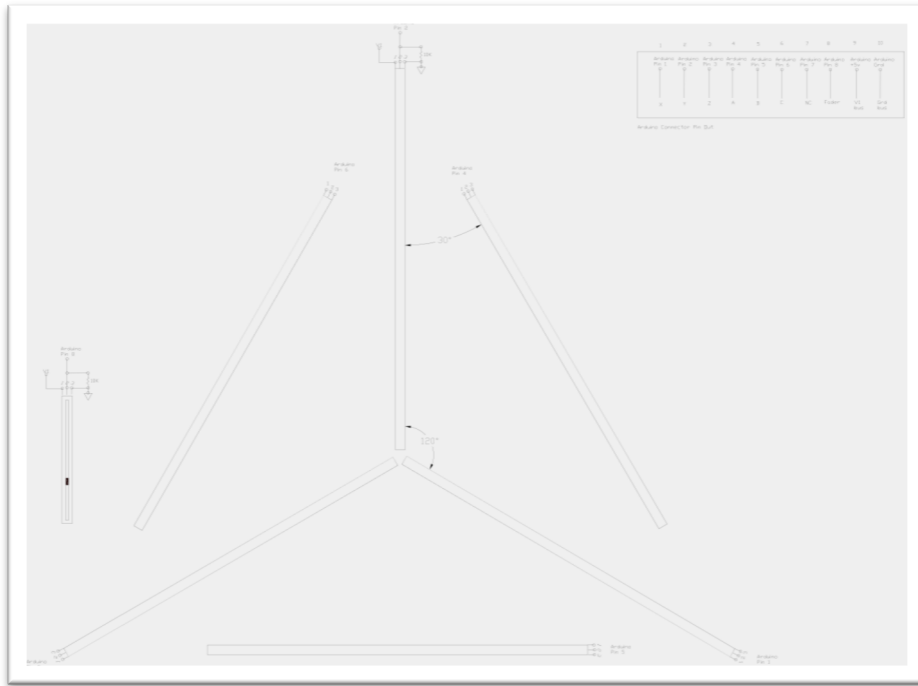


A Seven-dimensional matrix controller: an instrument to play musical ideas rather than only single tones by interfacing with a storage/memory system containing segments of musical ideas in three-dimensional arrays.

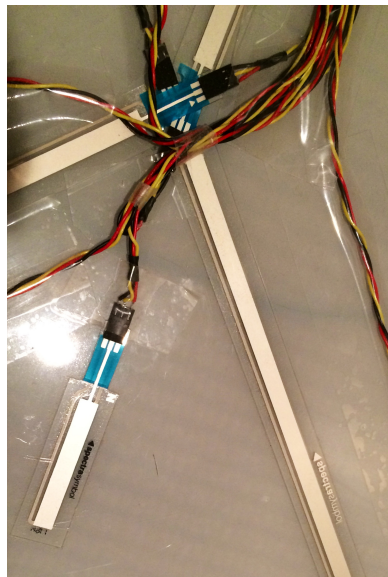
**William Kleinsasser
2013-2014**

Hardware:

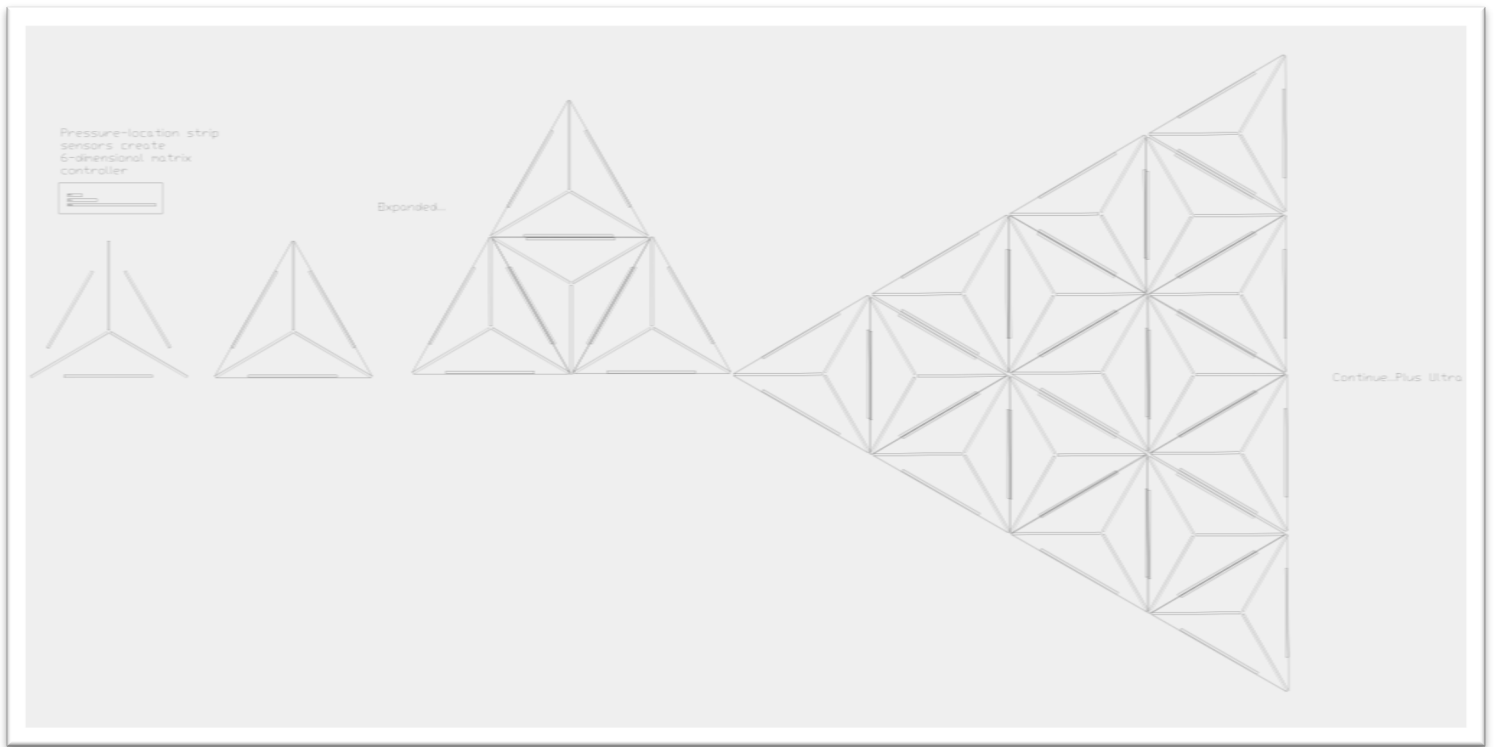


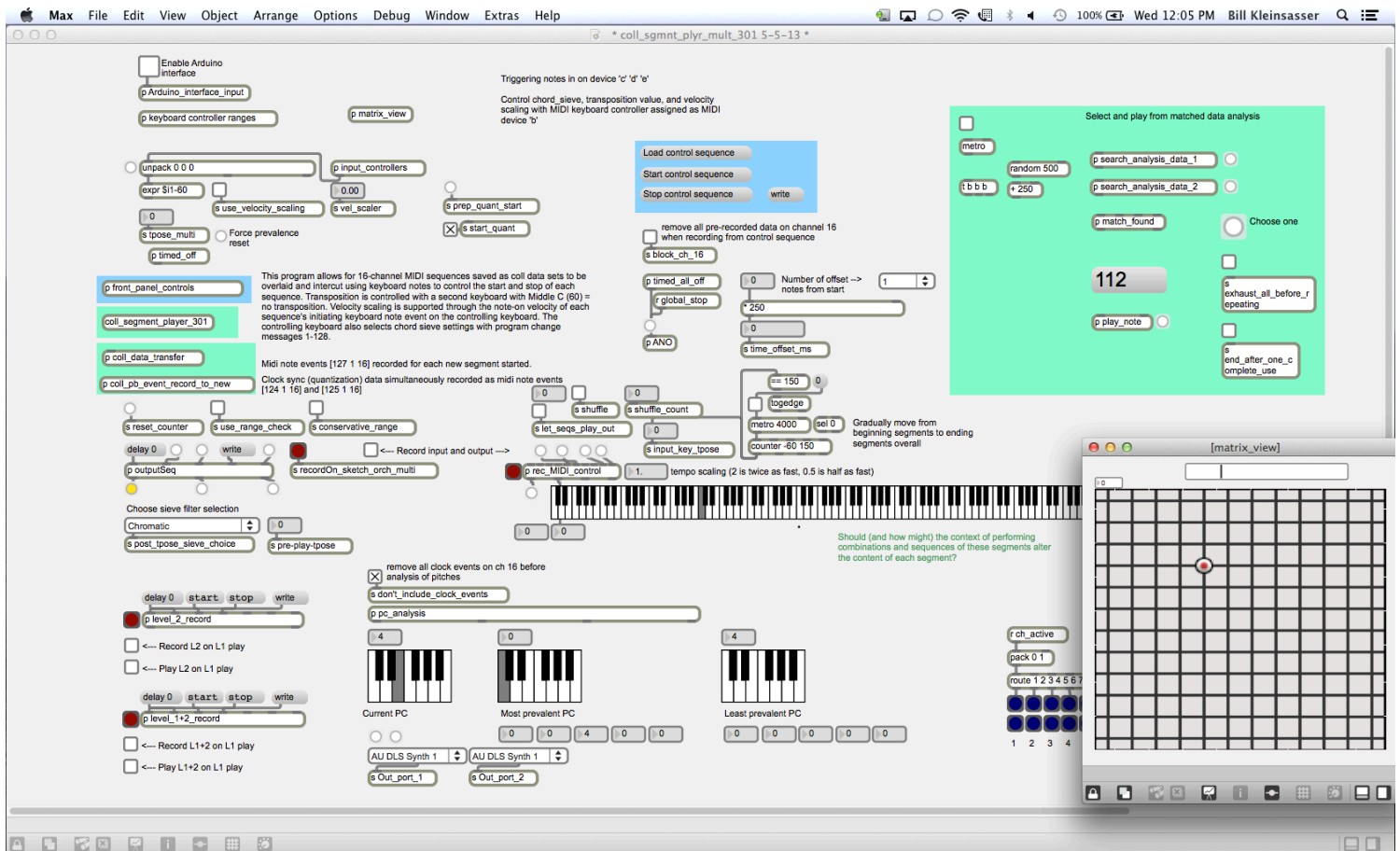
Linear sensing touch-sensitive strips are laid out as an X-Y-Z pattern on a two-dimensional base with four additional strips located adjacent to them. The X-Y-Z strips are used to play segments stored in three-dimensional arrays of recorded musical ideas (midi sequence segments). The other four strips can be programmed to control other aspects (volume, transposition, spatialization, mutation, reordering, cross-grafting, anything that is desired).

Each sensor strip of the interface is wired to an Arduino microprocessor running software for interpreting the sensor data and sending it to a computer via USB cable (or can be made wireless using Bluetooth or WiFi protocols).

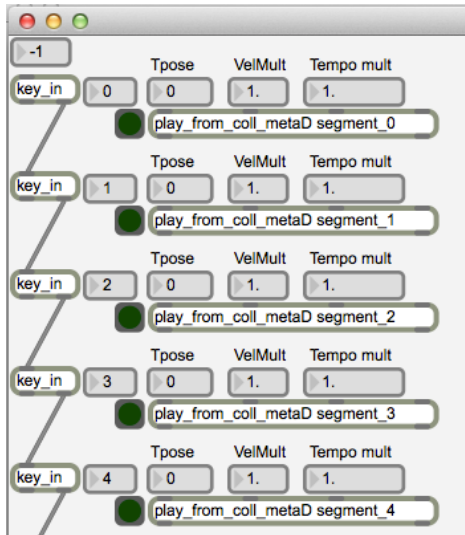


The instrument can be combined with others to produce large multi-player 'ensembles' of instruments accessing shared or independent musical segments. These ensembles can be local (together in one place) or interconnected virtually over networks from multiple locations.

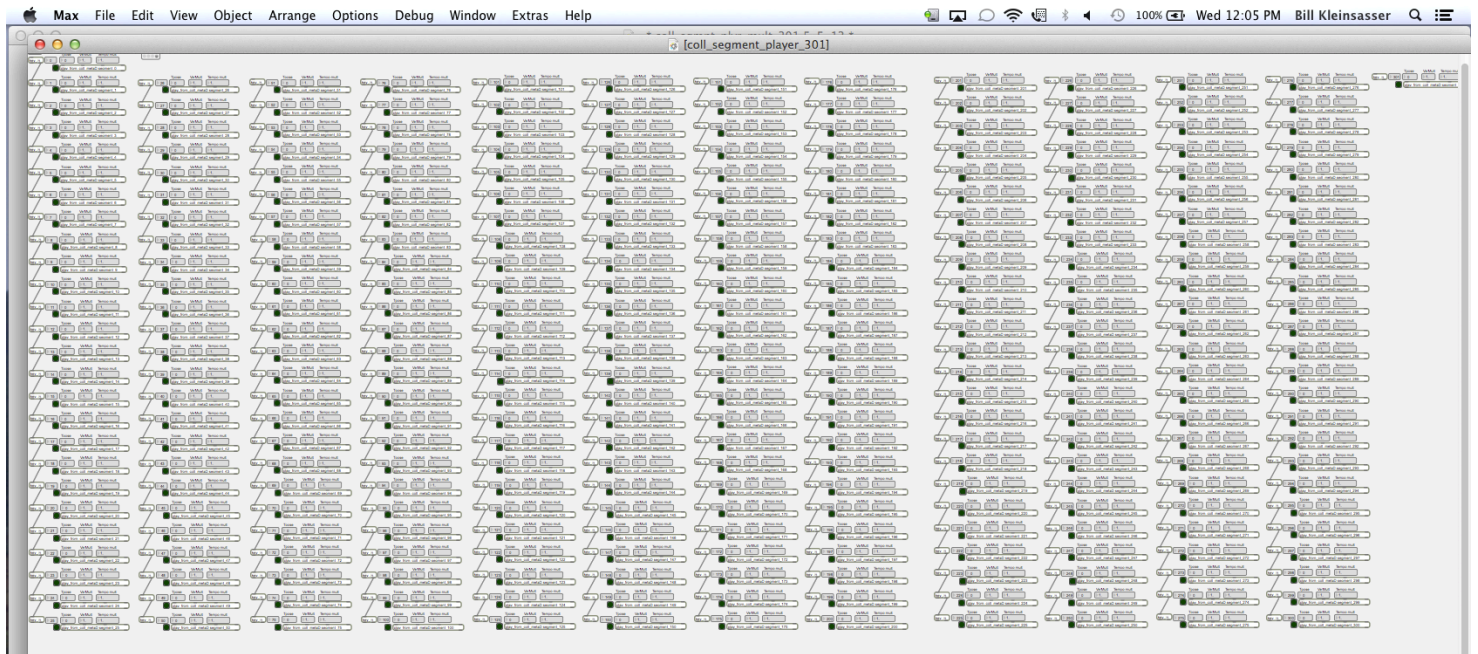




Musical segments are stored using redundant subprograms for MIDI sequence recording, storing, and playback.



These “play_from_coll_medaD” modules are duplicated to form large arrays of segments to be played. These collections are limited only by storage capacity of the computer and speed of the computer processing.



Materials:

Seven 50-300mm touch sensitive strip sensor controllers

Seven strip sensors are arranged as shown in diagram.

Each sensor is connected to Arduino mini microprocessor.

Plastic sheeting for mounting sensors and Arduino.

USB cable or Bluetooth transceiver for connection to computer
