

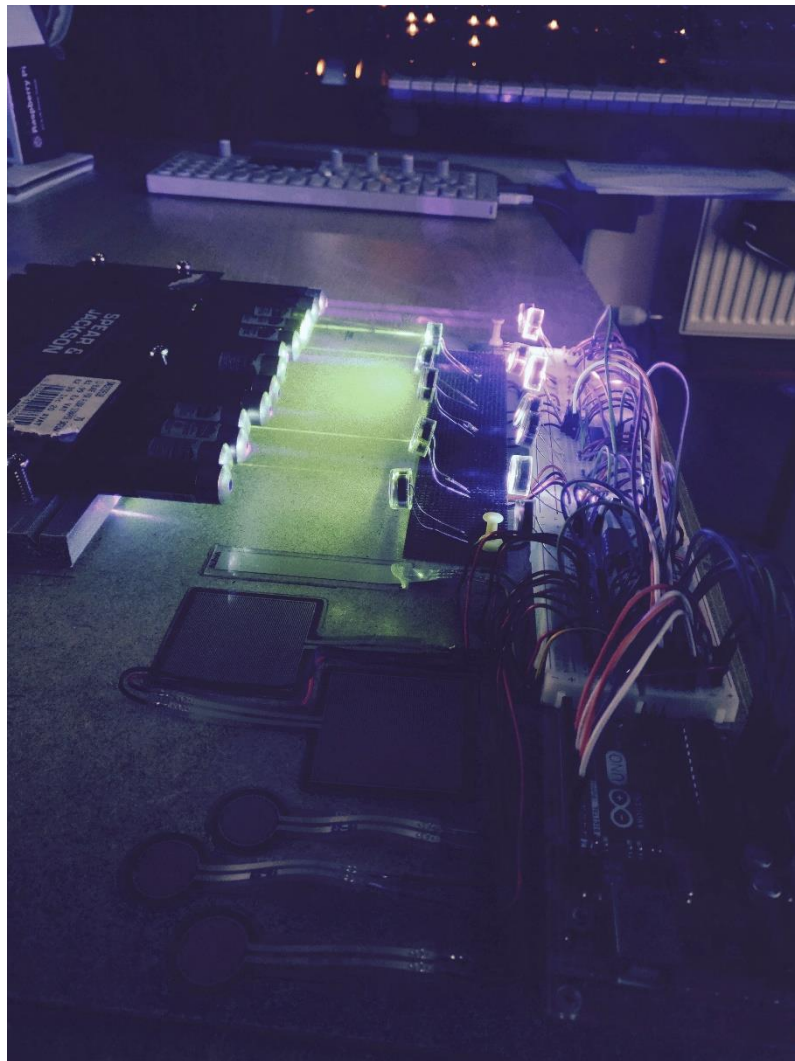
Building a Laser MIDI keyboard

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Sensor Technology

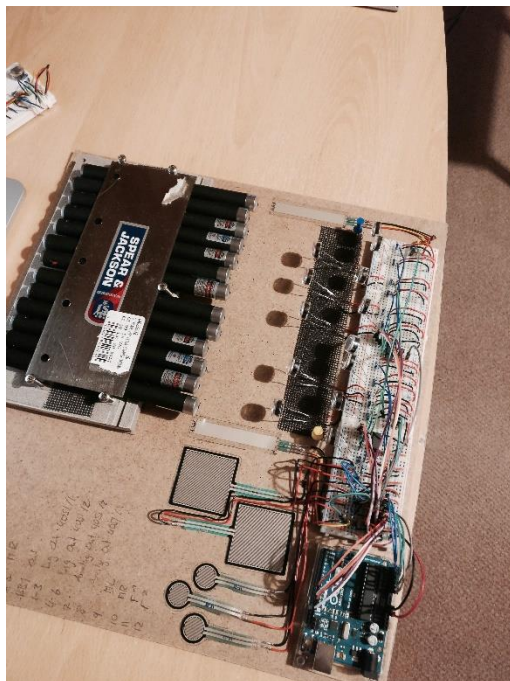
Course: Creative Music Technology
Anglia Ruskin University, Cambridge, UK



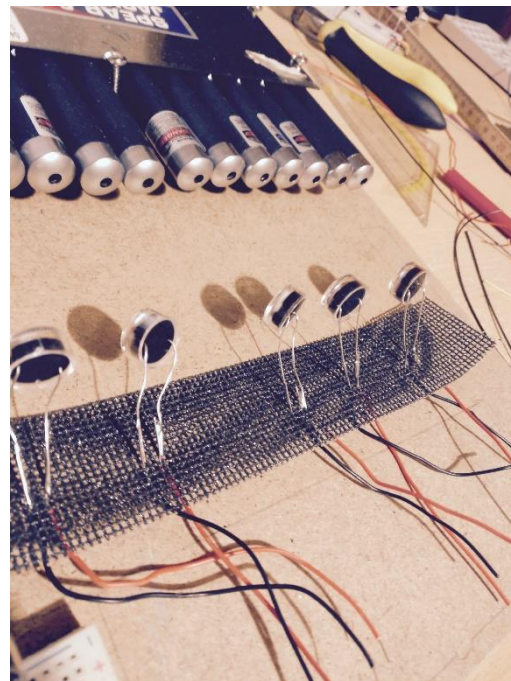
A demonstration of the device can be found on [YouTube](#).

Initially I wanted to construct a laser MIDI harp, but after further research on how this might be done I found out that the materials are quite expensive since you need a very powerful laser (£100 and onwards) and I simply do not have the tools to build something like this.

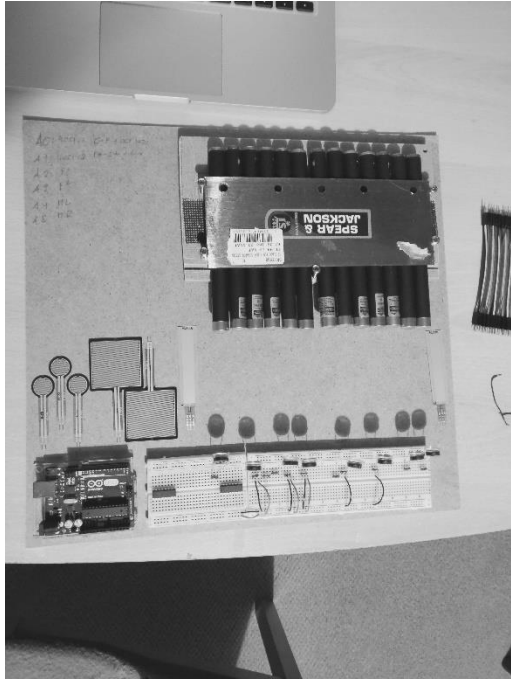
I then thought about what my main instrument is (piano) and decided to build a laser MIDI keyboard. Why? Laser technology always catches someone's eye, and I'm more accustomed to play keys than a harp. This "instrument" is also something I can use then this module is finished – I am planning on keeping it in development, and since I'm the developer, I can also troubleshoot and fix broken circuits or LDR's or lasers since I know exactly how the circuit behaves. As of now, the signals coming from the Arduino Uno are processed in Max, but in the future I plan on installing a Arduino Micro (which is MIDI compatible) for instant use in any software (or hardware) which reads MIDI. Perhaps some time in the future I'll also include OSC and perhaps a Raspberry Pi in order to send signals over a network.



//finished board



//holder for protruding LDR's



//board at beginning states



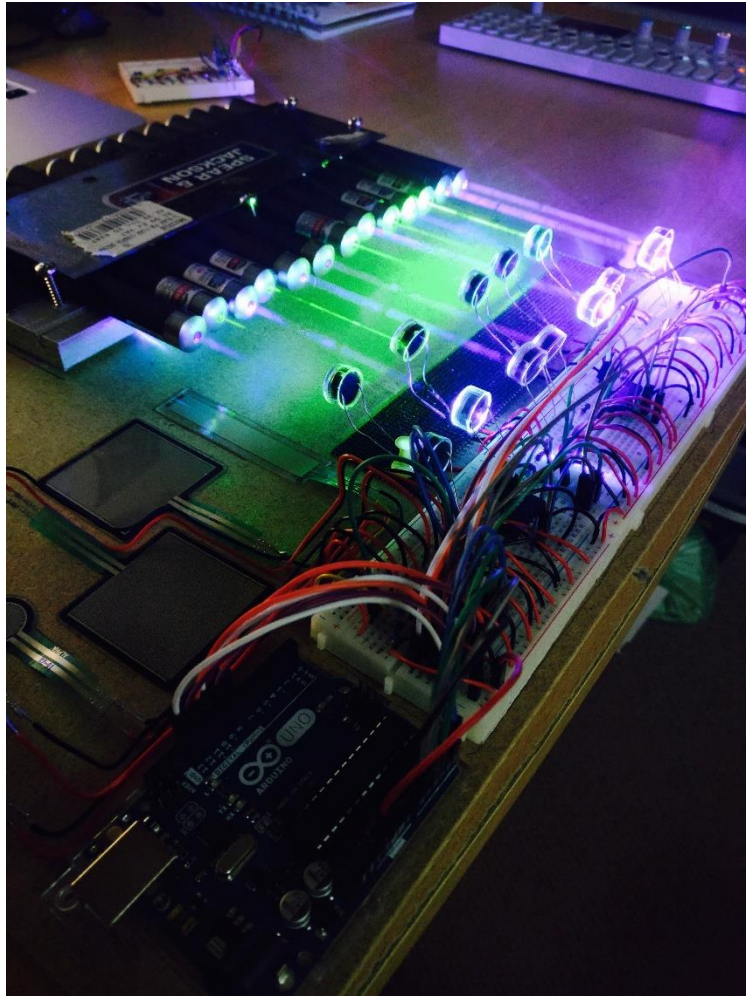
//cutting wood



//my desk mid-project



//soldering



//finished board in action