

Judge Proulx's Ruling: the Law, Music and Computers

**“Is it not strange that sheep’s guts should
hale souls out of men’s bodies?”**

William Shakespeare **Much Ado About Nothing**

Richard Hoadley
2007
v0.1

Judge Louise Lamarre Proulx's Ruling

Tuesday, February 21st, 2006

The screenshot shows the National Post website interface. At the top, the logo 'NATIONAL POST' is displayed in a large, serif font. Below the logo, there is a search bar and a date indicator 'Wednesday, October 24, 2007'. The main content area features a large red advertisement for Rogers with the text 'FIVE REASONS NOT TO GO BACK TO THE OFFICE' and 'Make the most of your time anywhere, anytime.' To the left of the ad is a sidebar with navigation links for 'Inside the National Post' and 'Inside the Financial Post'. The main article is titled 'Music to this composer's ears' and is dated 'Tuesday, February 21, 2006'. The article text discusses a tax ruling regarding computer equipment as a musical instrument, mentioning a claim by Alan Belkin, a music teacher at the University of Montreal. The article includes a small image of a mobile phone displaying the Rogers logo.

From the **National Post**, Canada, February 21st 2006:

“[Most] would agree that a piano, violin and even a tuba are musical instruments. But a recent decision of the Tax Court of Canada has added a computer to the list, at least for tax purposes.

<http://www.canada.com/nationalpost/story.html?id=f774253f-aef7-488d->

Judge Proulx's Ruling

Brute force and Unimaginable Phenomena

“Computer simulation of the orchestra has now reached a new stage... **The issue**, in effect, **became whether** [Belkin's] **computers were musical instruments** for the purposes of paragraph 8 (1)(p).

“In my view, the evidence has shown that times have evolved. This was revealed by the **evolution** of the type of **courses** taught at the **Juilliard School** as mentioned by the Appellant. In the field of music, **a computer may now be used for artistic and creative purposes...** My conclusion is that... **a computer is within the meaning of a musical instrument.**”

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Physicality and Consciousness – Penrose 1990

The Emperor's New Mind, p.573

“From the first of [these] experiments [Kornhuber, 1976], we seem to deduce that **conscious action takes something like a second to a second and a half before it can be effected**, while according to the second experiment [Libet, 1979], **consciousness of an external event does not seem to occur until half a second after that event has taken place...**”

Dionysus and Apollo

Technology and Physicality



The Revenge of the Intuitive

Brian Eno, The Revenge of the Intuitive, Wired, January 1999

“The trouble begins with a design philosophy that equates **more options** with **greater freedom**. Designers struggle endlessly with a problem that is almost non-existent for users: “How do we pack the **maximum number of options** into the **minimum space and price?**” In my experience, **the instruments** and tools that **endure** (because they are loved by their users) **have limited options...**

..Since so much of our experience is mediated in some way or another, **we have deep sensitivities to the signatures of different media**. **Artists play with these sensitivities**, digesting the new and shifting the old. In the end, **the characteristic forms** of a tool’s or medium’s distortion, of its weakness and limitations, **become sources of emotional meaning and intimacy.**”

Brian Eno, The Revenge of the Intuitive, Wired, January 1999

<http://www.wired.com/wired/archive/7.01/eno.html>

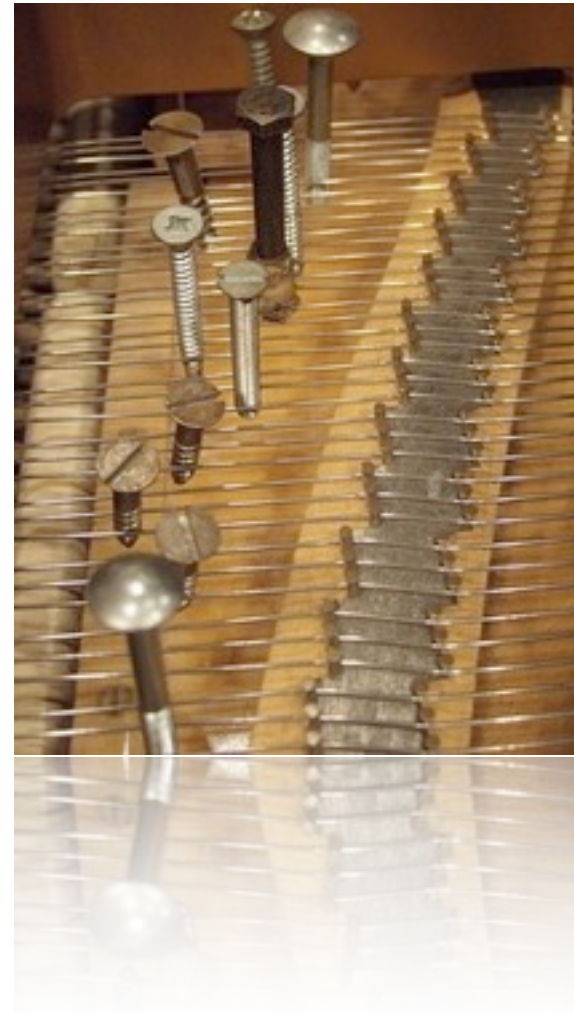
Acoustic Instruments, Extended Techniques

Prepared Piano

What enables a piano preparation?

The inability to do anything else to it (and there are always going to be people who want to try things out).

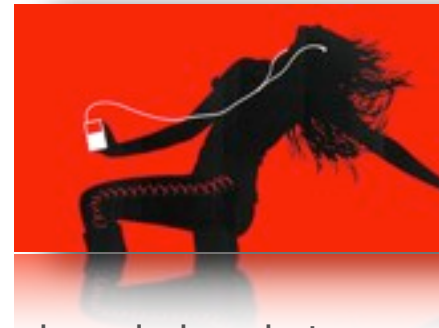
Also see mutes, extended techniques, key sounds, etc...



iPod

What is so extraordinary about the iPod?

It can **only do certain things**, which it does well and reliably. Other things are either **disallowed**, or only allowed by third-party contributors, therefore **retaining the simple, iconic nature** of the original articles. This irritates those who criticise that this could be done at half the price, or with twice the features.



Even iPod **advertisements** have led to their own spin offs – at least one company was (successfully) offering to ‘ipod-ise’ your own photographs; in turn Apple have undertaken a number of high profile legal cases in an attempt to protect the **‘identity’** of the iPod.

Summary

Summary of available Hardware – prices, resolution, latency...

A selection from: http://www.sensorwiki.org/index.php/Sensor_interfaces

Product	Manufacturer	Price	Inputs (A/D)	Outputs (D/A)	Sampling (Data acquisition) rate	Analog inputs resolution	Connection / Protocol
Any HID gamepad	-	> € 10	4/12	0/0	100 Hz	8 bit	USB / HID
Any HID joystick	-	> € 10	4/12	0/8	100 Hz	7-12 bit	USB / HID
Arduino	Arduino	€ 27	11(shared I/O)/6	11(shared I/O)/3	15 ksp/s @ 10 bit	10 bit	USB, serial
Arduino BT	Arduino	€ 95	11(shared I/O)/6	11(shared I/O)/6	15 ksp/s @ 10 bit	10 bit	Bluetooth
Arduino Mini	Arduino	€ 30 + 1€ (for USB adapter)	11(shared I/O)/6	11(shared I/O)/6	15 ksp/s @ 10 bit	10 bit	USB
Drumb128	Chip45	€ 35			100 Hz		USB, serial
MIDIsense	LadyAda	€ 38	8	-	Max 1280Hz (32x oversample) 40Hz output per channel	10 bit	MIDI
Wiring i/o board	Wiring	€ 47	40/8	40/8	15 ksp/s @ 10 bit	10 bit	USB, serial
CREATE USB interface (CUI)	Dan Overholt	€ 50	17(shared I/O)/13	17(shared I/O)/2	100 ksp/s @ 10 bit	10 bit	USB, Bluetooth / HID
MA-MIDI	Zenprobe	€ 50	11	-	100-1000Hz	7 bit	MIDI
GAINER	The GAINER development team	€ 55	0-8/0-16	0-16/0-8	220 Hz	8 bit	USB, serial
Phidgets Interface Kit 8/8/8	Phidgets	€ 70	8/8	8/0	100 Hz	10 bit	USB
Pocket Electronics	Doepler	€ 80	16	-	-	7 bit	MIDI
MultiO	mamalala	€ 90-200	88	64	100Hz	8/10/12 bit	USB / HID

Resolution: 7-Bit 0-127 (MIDI); 8-bit 0-255; 10-bit 0-1023; 12-bit 0-4095; 16-bit 0-65535, etc..

Demonstrations

Examples

- **Wii** – ‘Hacked’ item:
- **Teabox** – Specifically designed item
- **Arduino** – Specifically designed, customisable item:

All these are representative of their classes – instead of the **Wii**, one might choose another **HI device** – a **game controller** or **p5 glove**, for instance.

Demonstrations

Wii – Announced at the Tokyo Game Show on September 16, 2005

£35 from Amazon

It has... gained significant attention from **hackers reprogramming** it to control non Wii-related devices... including control of a **Roomba robot** vacuum cleaner, **mix and splice** tracks in a DJ act, control an industrial **robot playing tennis**, control a **drum kit**, and play laser tag. Some companies are looking into reprogramming Wii Remotes for business applications such as manufacturing operations.



Equivalent to...

- Without the **accelerometer(s)**, they are equivalent to low-functionality HI devices such as game controllers: low price, low resolution products.

Demonstrations

Wii

“...the Wii’s motion sensing system has proved more than a **clever gimmick**. Its method of **physically immersing players** has **changed the way we think about games**, so much so that **Manhunt 2**, a game that would have gone unnoticed on traditional consoles, was smartly **banned**.”

BBC Focus Magazine,

Demos (SuperCollider):

- Proulx-Wii.rtf
- Proulx-Wii-Pattern.rtf

Demonstrations

Teabox

<http://www.electrotap.com/teabox/>

High-end, non-programmable, use 'out of the box'.

Equivalent to...

- Ebody
- La Kitchen (R.I.P.)
- Infusion/I-CubeX
- IRCAM (Wisebox)
- Steim



Demonstrations

Data Glove

\$380.25US



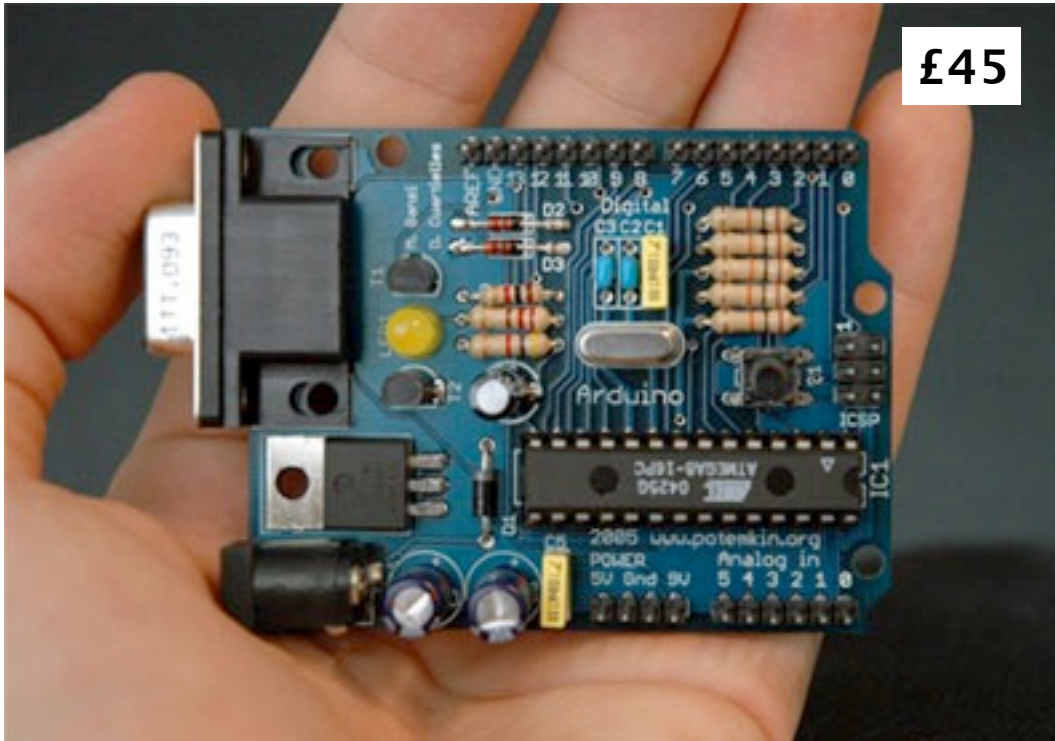
Infusion Systems
Data Glove

http://infusionsystems.com/catalog/product_info.php/products_id/99

<http://infusionsystems.com/catalog/index.php>

Demonstrations

Arduino



£45

Mid-range,
programmable,
customisable.

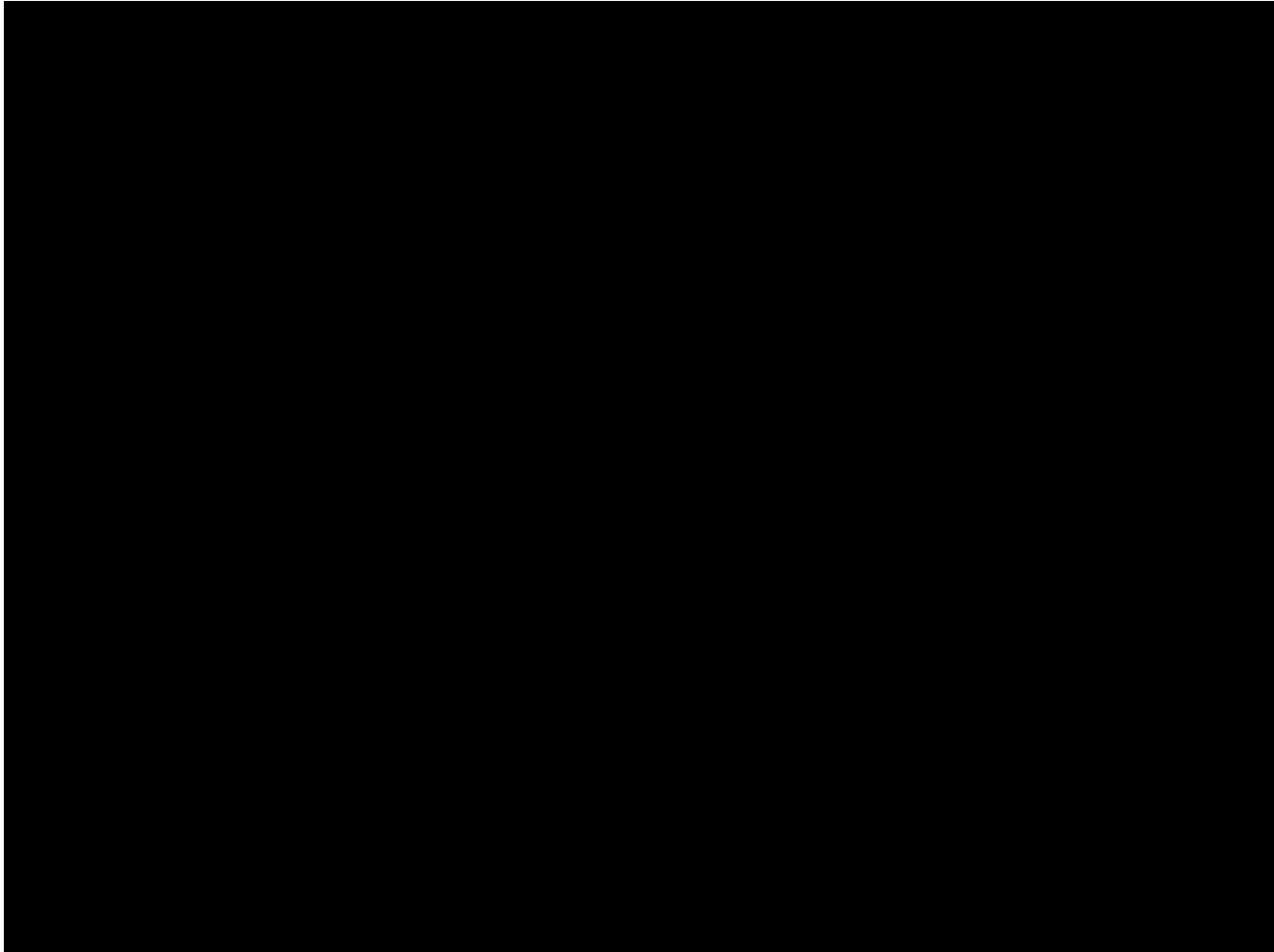
Equivalent to...

- Wiring
- Basic Stamp
- Phidgets
- Make
- LadyAda
- Create USB...

- Arduino: File/Sketchbook/03-First Contact with Max/ArduinoCode
- Max: Arduino2Max-Max-Proulx

Postscript(s)

A Medley of Interface Suggestions



Bibliography

...and other resources

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- Tallis Scholars: Palestrina **Nunc Dimittis**
- Freiburg Baroque Orchestra: Bach **Brandenburg Concerto No 5**, BWV1050
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- <http://www.blockmuseum.northwestern.edu/picturesofmusic/>
- <http://bibliodyssey.blogspot.com/2006/07/visual-context-of-music.html>

Other Presentations

Links

ACMP
Algorithms and Generative Music
Bioacoustics
Chance
CMP
Graphic Abstraction
Installation Art
Judge Proulx's Ruling
Live
Metaform and Metaforming
Notation as Art
Painting Music
pTech
Sonic Art
Sonification
sTech
Synaesthesia

END