

Musisoinnin uudet käyttöliittymät

(New Interfaces for Musical Expression)

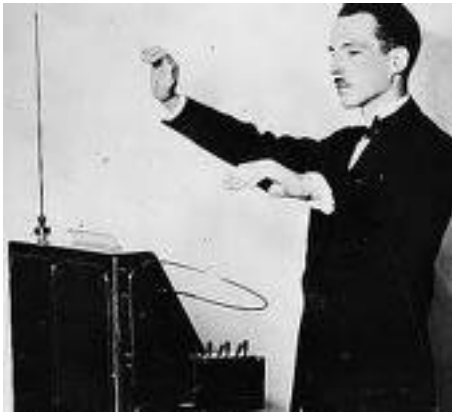
Tassu Takala

www.cs.hut.fi/~tta/

Aalto-yliopisto, Mediatekniikan laitos

Pioneers

Léon Theremin (1920)



Max Mathews:
Radio Drum (mid-1980's)



TheSite CCRMA interview (2008)

<http://www.youtube.com/watch?v=mTgJFxZXZJw> (video 6')

MIDI instruments

- based on distinction:
interface – sound synthesis
- interfaces mainly copied from classical instruments
- synthesis mainly based on classical 12 note system and score notation
- but ... lots of extensions



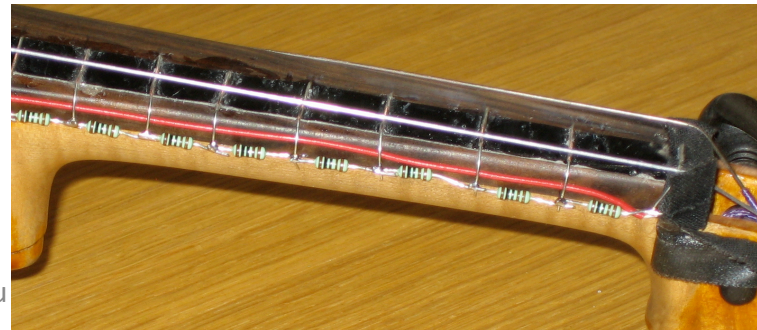
Augmented instruments

- Expanding the Violin: Diana Young's Sensor-packed Hyperbow (2006)
- Tassu Takala: Playable Synthesis Model and Controller for Bowed Strings (2007)



TeknoDida 23 Sep 2011

(video 1'27")



Tassu

Computer assisted music

- Computer knows the music, human controls the performance
- Examples: RadioDrum + DisKlavier
 - Conducting: DIVA

(video 1'43")

<http://eve.hut.fi/applications.html>



Gestural control (in 3D)

- Embodied interfaces!
- Theremin, DIVA
- Contemporary games
 - Wii: To play each of the instruments, the player mimics the required motions
 - PS Move
 - Kinect

<http://www.kinecthacks.com/kinect-music-studies-by-johannes-kreidler/>



Multitouch surface instruments

- Reactable

+ many others...



http://www.youtube.com/watch?v=vm_FzLya8y4 (video 2')

<http://vimeo.com/26678704> (video 22'51")

Virtual instruments

- ALMA xylophone + drum (videos 1'25" + 50")

<http://eve.hut.fi/applications.html>

- Virtual acoustics

- Virtual air guitar

<http://airguitar.tml.hut.fi/>

(video 52")



Mobile devices

- Helsinki mobile phone orchestra (video 51")

- http://www.youtube.com/watch?v=8z4xIYAk8_I



- Magic Fiddle (video 2'54")

- <http://www.tuaw.com/2010/11/10/smule-introduces-magic-fiddle-for-ipad-video/>



Collective music making

- Jason Freeman: LOLC (2010)
 - collaborative textual performance environment
 - music by text commands, including chat among players
 - visualization on large screen



Performance at NIME 2011 conference

<http://vimeo.com/26678685>

(video 14')

Conclusions

N I M E
2 0 1 1
O S L O

Contemporary trends:

- embodied, physical, tangible (instead of abstract), motion based, collaborative,

What new interfaces can give us?

- Extending possibilities of musical expression
- Make music easier for beginners
- Collaborative experience
- Lots of fun 😊