VA336 interactive sound

Week 2

Node Based Programming

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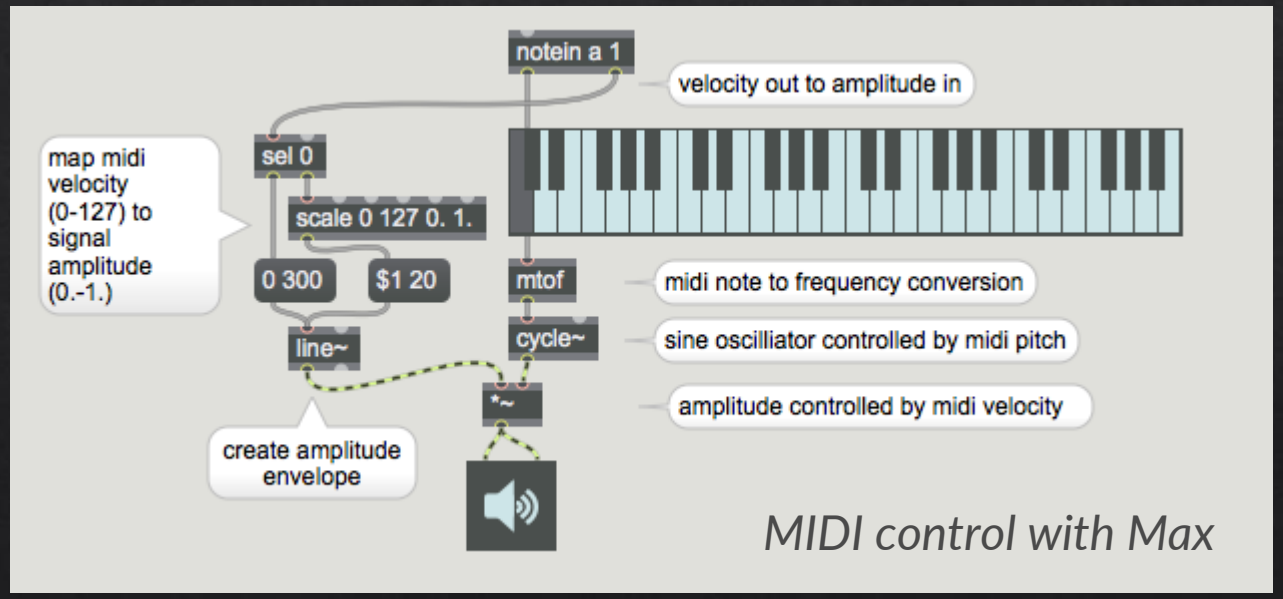
Introduction to MaxMSP

Max enables you to design your own interactive programs that draw, play movies and sounds, respond to mouse and keyboard control, and integrate with outside devices through MIDI and other communications systems.

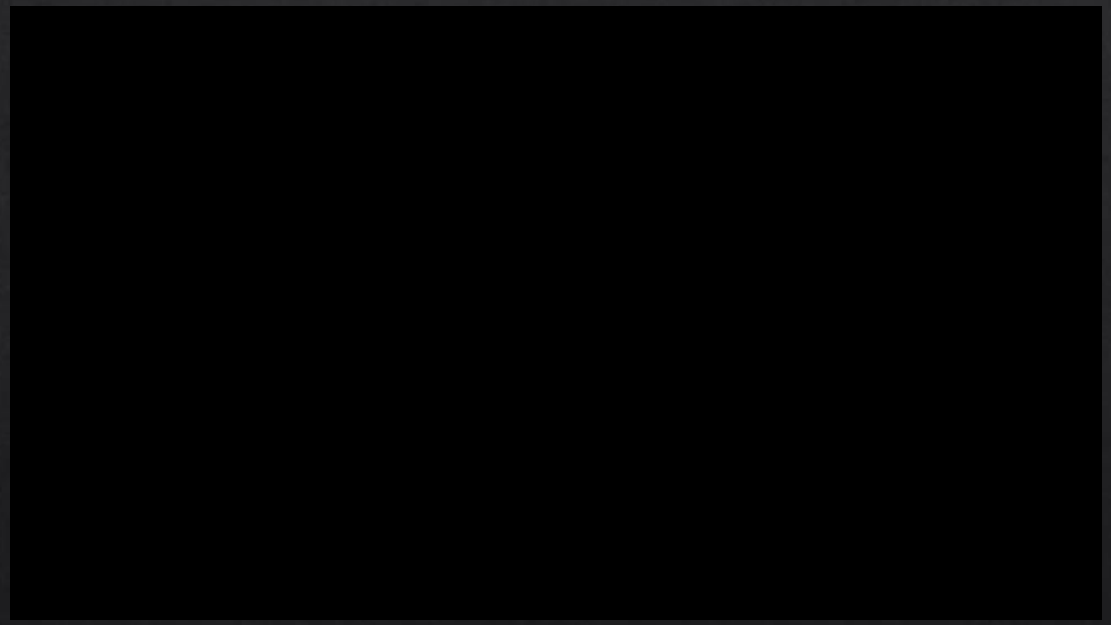


MIDI control with Max

Ref: https://docs.cycling74.com/max7/tutorials/00_mspindex

Introduction to MaxMSP

With the addition of the MSP objects, you can also create your own digital audio device designs -- your own computer music instruments -- and incorporate them directly into your Max programs. If you like, you can specify exactly how you want your instruments to respond to your control, and you can implement the entire system in a Max patch.



Max/MSP Tutorial HD - Jonny Greenwood style stutter effect

Ref: https://docs.cycling74.com/max7/tutorials/00_mspindex
https://cycling74.com/articles/learning-how-to-stutter-to-good-effect

Hello World

Boxes : Objects vs Messages

Unlocking the patcher

Escape Character, use of comma

Using Help

hello_world.maxpat

Bang Message → bang.maxpat

Data Structures

Variable

Numbers and Lists

} data_structures.maxpat

pak vs pack → pak-pack.maxpat

Temporality

Metro: The metro(nome) produces bang messages, much like the button object. However, unlike button, metro objects send these messages repeatedly at the interval specified in its argument. Once started, metro will continue to send bang messages until stopped.

metro → metro.maxpat

Bang Order

Right-to-left, bottom-to-top

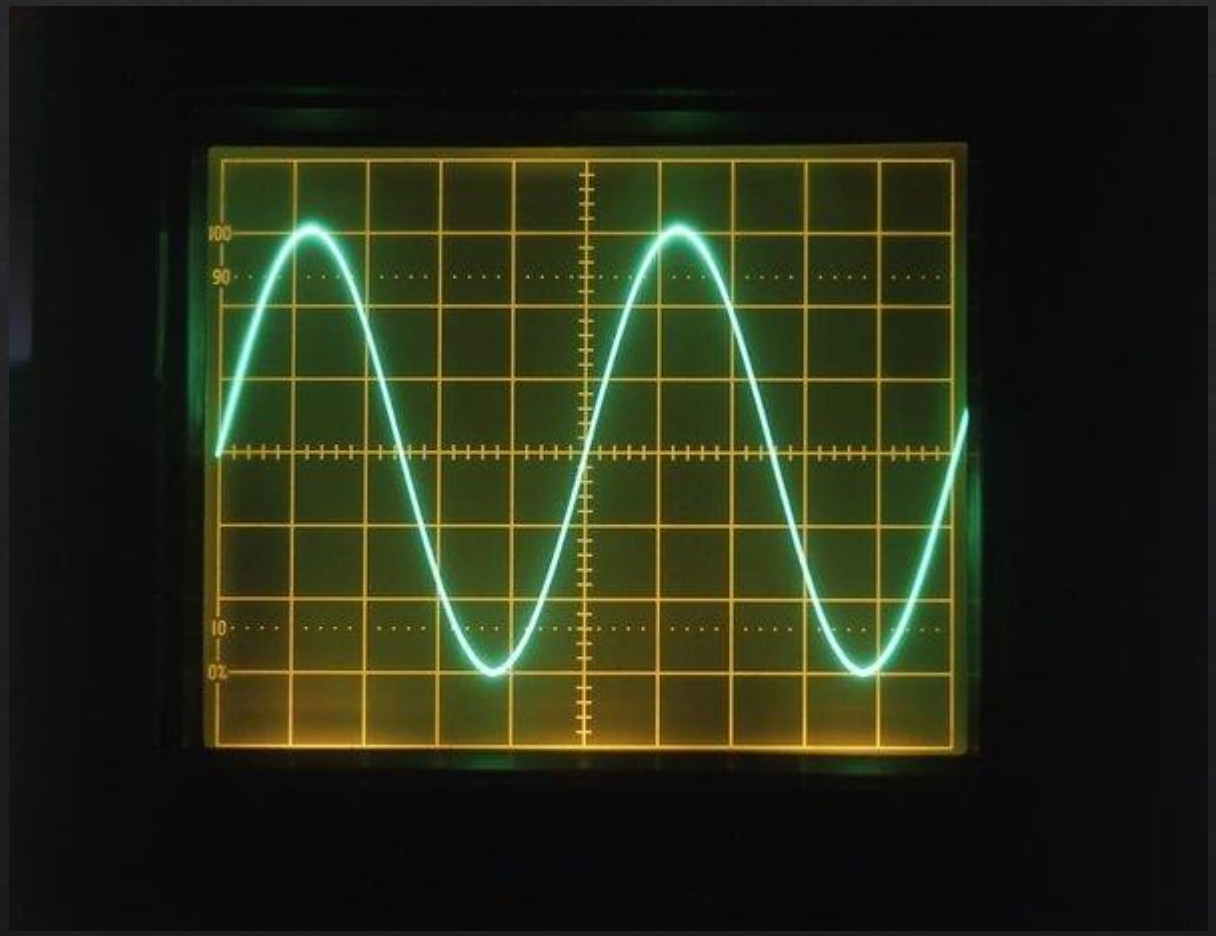
Bang Order → bangorder.maxpat

bang, bangbang

trigger → trigger.maxpat

Signal Processing

Cycle~



Sound Synthesis

Sound synthesis is the technique of generating sound, using electronic hardware or software, from scratch. The most common use of synthesis is musical, where electronic instruments called synthesizers are used in the performance and recording of music.

Ref:https://en.wikibooks.org/wiki/Sound_Synthesis_Theory/Introduction

Sound Synthesis

Sound synthesis has many applications both academic and artistic, and we commonly use synthesizers and synthesis methods to:

Generate interesting and unique sounds or timbres incapable of being produced acoustically.

Recreate or model the sounds of real-world acoustic instruments or sounds.

Facilitate the automation of systems and processes (text-to-speech software, train station P.A.s)

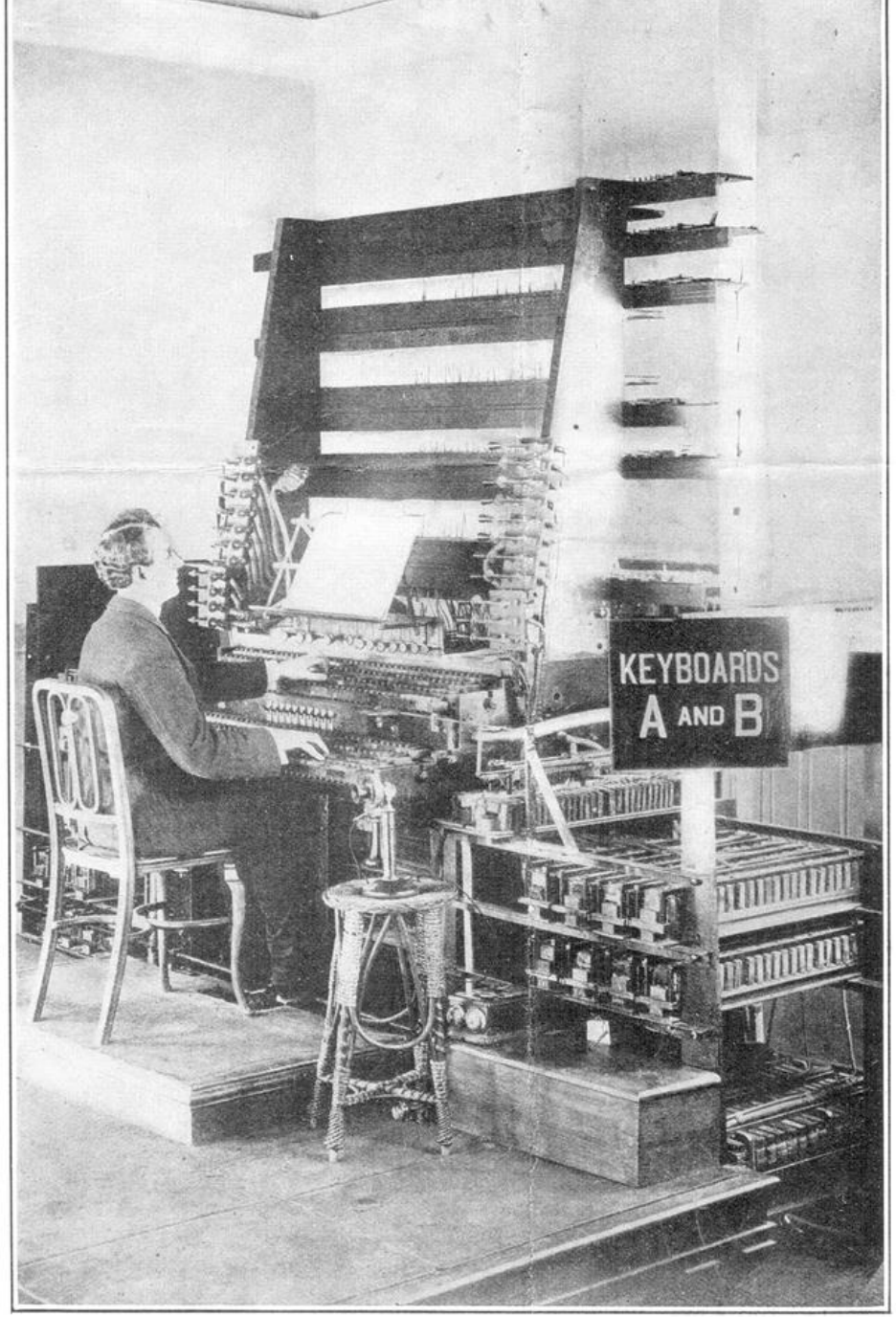
Ref:https://en.wikibooks.org/wiki/Sound_Synthesis_Theory/Introduction

Sound Synthesis

120 Years of Electronic Music

The history of electronic musical instruments from 1800 to 2019

http://120years.net



THE KEYBOARD OF THE TELHARMONIUM

Theremin

https://www.youtube.com/watch?v=Hv8srOIRtdA

Assignment

Use Mouse coordinates to manipulate an oscillator

Hint: mousestate, cycle~