

Max Video Tutorials

CS 4624

Virginia Tech

Blacksburg, VA 24061

Instructor: Dr. Edward A. Fox

Client: Dr. Charles Nichols

Team: Tyler DeYoung, Amanda Kahn, Deepika Darivemula, John Russell



Project Overview

- Computer Music and Multimedia class: MUS 3654
- Max Video Tutorials
 - Max Basics (7:09)
 - Timing in Max (6:00)
 - The Coll Object (6:32)
 - Quad-speaker Spatialization (6:05)
 - Audio Modulation (4:42)
 - Audio Synthesis (3:11)

Requirements

- Content
 - Mirrors Max manual: <https://docs.cycling74.com/max7>
- Video
 - DISIS lab using Quicktime: 1080p
 - Raw output of video will be a .MOV file
- Audio: Built in iMac microphone
- Maintenance
 - Client will receive raw unedited videos and iMovie project files
 - YouTube annotations for minor edits

Outline: Additive Synthesis Video

1. Explain signal
 - a. Convert numbers to audio signals
2. Explain frequency
 - a. The number of cycles per a unit of time
3. Explain amplitude
 - a. The height of the sound wave
4. Explain cycle
 - a. Generate periodic wave.
5. ...

Explain:

Sig obj: (converts number \rightarrow freq)

Frequency: Pitch of sound

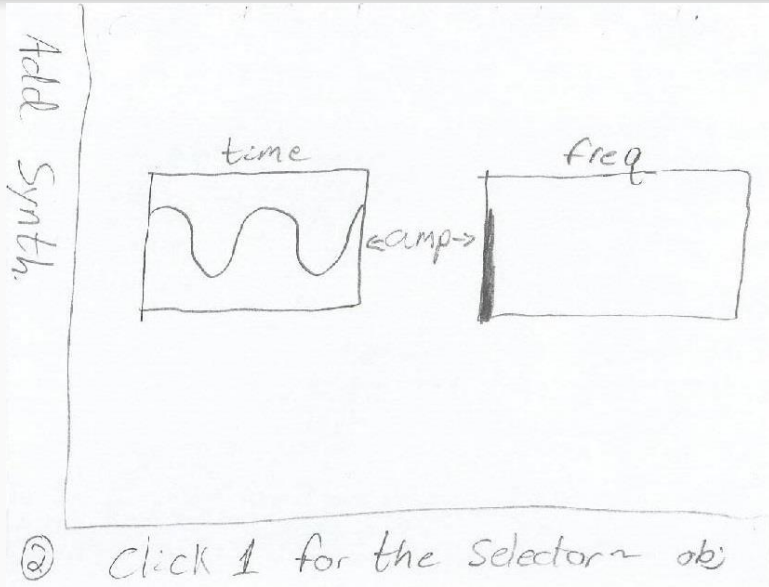
Amplitude: Loudness of sound

Cycle obj: Generates a cos wave

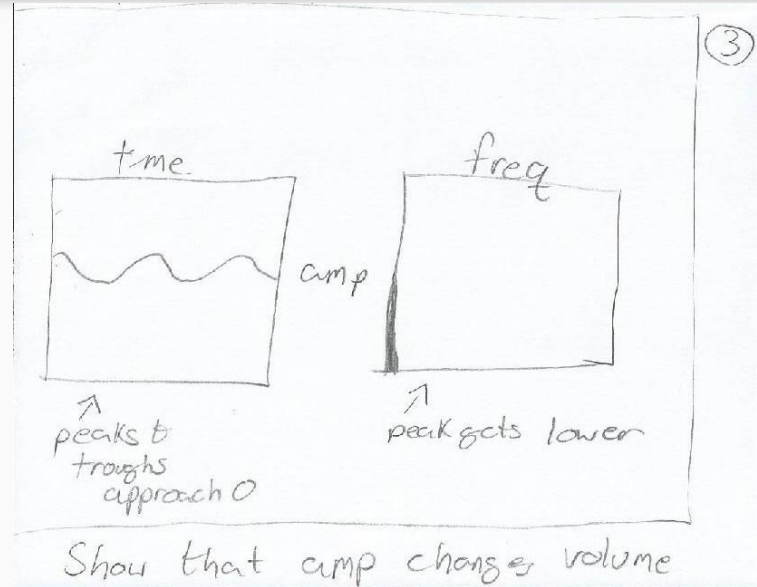
*~: multiplies signals

*: multiplies numbers.

Outline Continued



6. Using a dac, show an 'A' at 440hz using intbox -> sig -> cycle



7. Show that changes in amplitude change 'volume'

Explain:
 Sig obj: (converts number \rightarrow freq)
 Frequency: Pitch of sound
 Amplitude: Loudness of sound
 Cycle obj: Generates a cos wave
 *~: multiplies signals
 *: multiplies numbers.

Add Synth.



Important Explanations

Important Visuals

Open AddSynth.m script

① ② Click 1 for the Selector ~ obj

Major Steps



↑ peaks & troughs approach 0

↑ peak gets lower

Show that amp changes volume



↑ compresses & extends

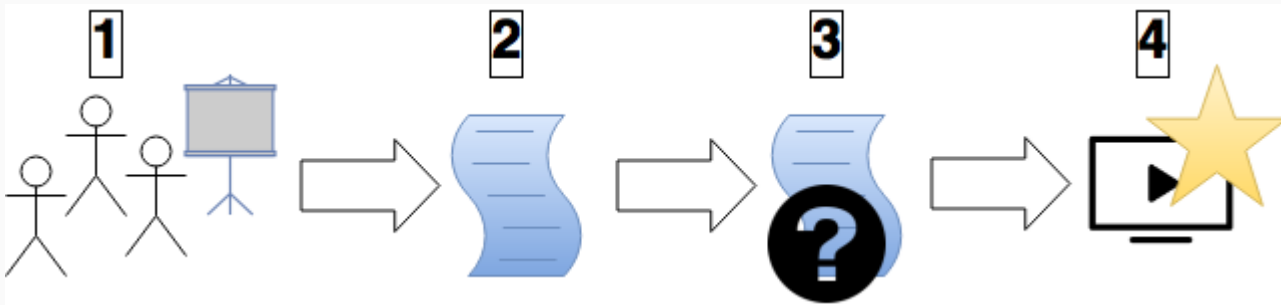
↑ moves left & right

Show that freq changes pitch

Expected Results

Testing Process

1. Show the videos to several testers with varying experience with Max
2. Fill out rating chart and write comments
3. Analyze feedback to determine the success of our videos
4. Identify improvements that could be made

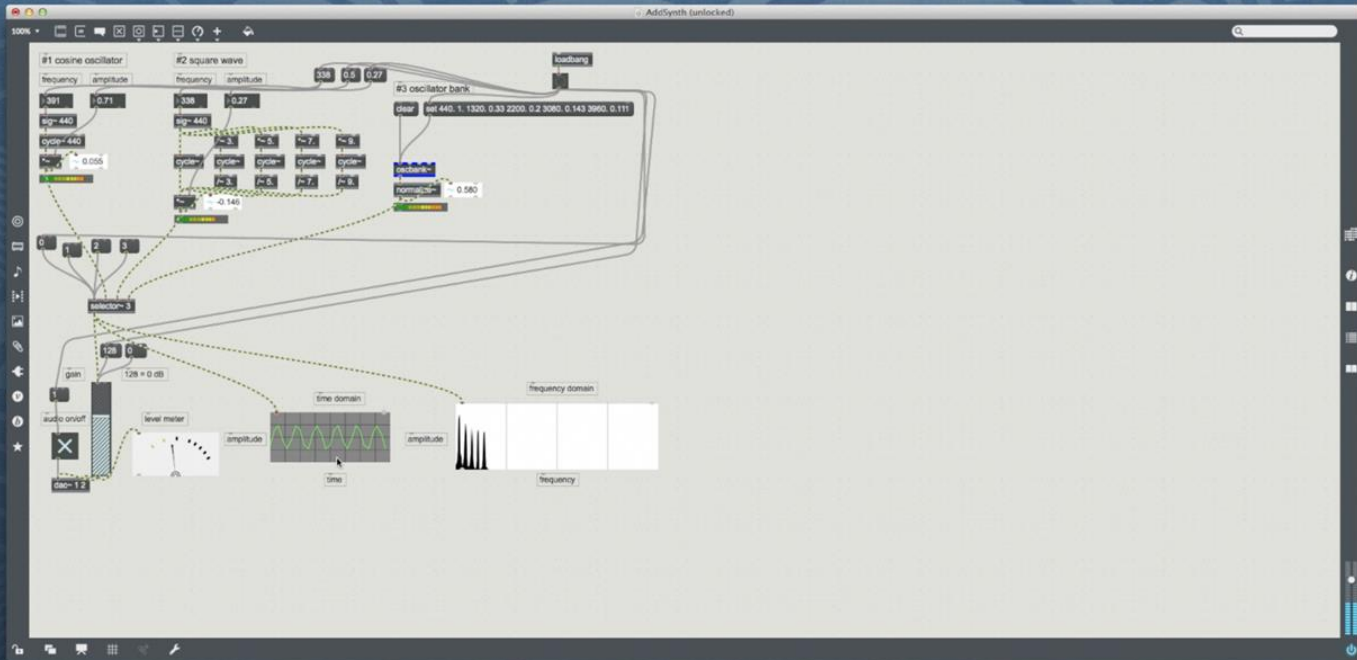


Problems and Lessons

- Lessons learned from trial and error during production of first video
 - Using general, rather than detailed, script outlines
 - Narrator must speak slowly
 - Using the internal microphone on the iMac
 - Adding pauses in audio to make editing more efficient

Sample from Additive Synthesis Video

https://youtu.be/fms4jU_tIN0



- VST
- MachD
- maxBasic.maxpat
- addSynth.maxpat
- maxEasics
- maxAudioMod.maxpat
- Quadspeaker
- coll
- timing
- quad
- CountExample.maxpat
- SamimTest (1).maxpat
- SamimTest.maxpat
- el.samm-mso

