

***TouchDesigner Workshop:  
interactive visuals for performance  
Beginners level - target age:13-16  
1-2 april 2017***

*download free version here (Mac or PC):*

<https://www.derivative.ca/099/Downloads/Default.asp>

*TouchDesigner interface basics:*

<https://www.derivative.ca/Education/BestWorkshopVideos088/>

***Day1 morning***

***TouchDesigner overview - demonstration of a sound reactive work, use of external tracking devices (leap motion), explanation of operator types, audio input, perform mode (think powerpoint!), interface construction and projector output***

***Case study***

*“Leap motion puppet” <https://vimeo.com/204862470>*

*using the leap motion controller to animate a digital puppet - shoes and hands are animated by analysing incoming audio signal.*

***Animating an image with audio***

d1\_ex1: analysing audio peaks - analyse CHOP - lag CHOP

compare pre and post lag values - merge CHOP - trail CHOP

read an image and use audio values to animate- moviein TOP-transform TOP-composite TOP

add a button to transform image in y - button component-trigger CHOP

what is noise? Switch to animate with noise CHOP-switch CHOP

d1\_ex2: using the webcam - videoin TOP

underwater effect - noise TOP - speed CHOP - displace TOP

use a black and white image to animate time-timemachine TOP-texture 3d TOP

***Day1 afternoon***

***Introduction to 3d***

d1\_ex3: importing geometry - animating with audio-camera, light COMP-render TOP

transforming geometry - animate 2 shoes with audio-create floorplane-grid SOP-lighting

leap motion - animate head with leapmotion channels-leapmotion CHOP-leapmotion TOP

save and share your component

d1\_ex4: demo of character rigging in houdini-import puppet geometry and animate with leapmotion

shadows, adding materials

d1\_ex5: audio reactive face animation - create 2 face textures, apply as material to sphere

animate with audio-sphere SOP-analyze CHOP-logic CHOP-switch TOP

Photoshop in TOP - paint a face texture in photoshop and send into TouchDesigner

## *Day2 morning*

### **Paint tool**

d2\_ex1: create a simple pen tool with mouse-panel CHOP-circle TOP  
palette-color picker  
post fx: create a base COMP inside which we create some trail effects  
base COMP-feedback TOP-custom parameters-parameter CHOP

### **Particles and kinect**

d1\_ex2: emit particles from a sphere-particle SOP-sort SOP-wireframe MAT  
kinect CHOP-screen space and world space  
track the sphere with kinect uv values-transform SOP  
composite over kinect rgb input-kinect TOP

### **MIDI devices**

How to import MIDI information from a keyboard or MIDI controller (sliders)  
dialogues-MIDI device mapper-MIDI in map CHOP

## *Day2 afternoon*

### **Workshop project and performance**

**-audio reactive**

**-kinect**

**-leap motion**

**-touchscreen**

**-MIDI devices**

**-webcam**