

TouchDesigner workshop
Beginner's level
Accademia di Belli Arti, Reggio Calabria
(in Italiano!!)

TouchDesigner interface basics:

[https://docs.derivative.ca/First Things to Know about TouchDesigner](https://docs.derivative.ca/First_Things_to_Know_about_TouchDesigner)

Day 1 :19 ottobre, 15.00 - 18.00 (ONLINE)

TOPs - quicktime movies, compositing, ramps. Webcam

Explanation of interface - making connections - node types

help-> Operator snippets (examples of nodes)

Case study: "Gallileo's Journey"

<https://vimeo.com/596483362>

d1_ex1: moviein TOP - ways to play a quicktime

circle TOP - composite TOP

d1_ex2: ramp TOP - parameters - value ladders

d1_ex3: webcam - displace TOP - noise TOP - distort an image with moving noise - speed CHOP

d1_ex4: collapse to patch and save - in-out nodes

Day 2 :20 ottobre, 15.00 - 18.00 (ONLINE)

CHOPs: Animating an image: audio, animation comp, noise CHOP - Converting audio to image

d2_ex1: audiofilein & audiodeviceout - CHOP analyze CHOP - lag CHOP

noise function to animate - noise CHOP - 'time slice'

d2_ex2: animated ripple - ramp TOP - level TOP - animation component - keyframes and curves

interface design - component - buttons and sliders -

d2_ex3: audio animated ripple - ramp TOP - level TOP - speed CHOP

d2_ex4: 2 methods for converting audio to image - chopto TOP - audiospectrum CHOP - fit TOP

Case study: "Inferometer" music by Nikolay Popov

<https://vimeo.com/199131963>

d2_ex5: convert pattern CHOP to image - compositing waveforms

Day 3 :21 ottobre, 15.00 - 18.00 (ONLINE)

SOPs: 3D rendering, lights and camera - Interaction design - leap motion controller

<https://www.ultraleap.com/product/leap-motion-controller/>

Introduction to 3d geometry - SOPs - geometry viewer - camera - light - render

d3_ex1: Noisy sphere in a box - light projections

sphere SOP - noise SOP - facet SOP - normals

lights - spotlights/projection image- shadows

Phong MAT - color - texture mapping

d3_ex2: track mouse movements to create pen tool - panel CHOP - touchscreens (microsoft surface)

d3_ex3: leap motion puppet - importing geometry from 3d software (blender/3ds etc)

Day 4 :22 ottobre, 15.00-18.00 (ONLINE)

Case study“Gore - Russian song” music by Nikolay Popov

<https://vimeo.com/109052990>

CPU vs GPU - Copy SOP vs geometry instancing - TOPs display rgb pixels = xyz points

- d4_ex1: record mouse movements and instance geometry - trail CHOP - geometry component:instancing
add attenuated noise - noise CHOP - pattern CHOP
GPU vs. CPU - geo instance vs. copy SOP
- d4_ex2: noise TOP - display rgb as xyz points - 8bit vs 16 bit
- d4_ex3: geo vortex sacred geometry - instancing in TOPs
use animated noise to control rotation, ramp to control opacity and colour
noise CHOP - speed CHOP - ramp TOP - topto CHOP
GPU transparency in TouchDesigner
- d4_ex4: depth of field - rendering depth pass and plug into luma blur TOP
Explanation of camera clipping planes.

Day 5 :10 novembre, 9-19.00

particles

- d5_ex1: particles - collision - force - render with instancing
- d5_ex2: record mouse movements and instance geometry - trail CHOP - geometry component:instancing
add attenuated noise - noise CHOP - pattern CHOP
GPU vs. CPU - geo instance vs. copy SOP
- d5_ex3: geo vortex sacred geometry - instancing in TOPs
use animated noise to control rotation, ramp to control opacity and colour
noise CHOP - speed CHOP - ramp TOP - topto CHOP
GPU transparency in TouchDesigner

Day 6 :11 novembre, 9-19.00

Dmx - LED light control - controlling a moving head LED light with kinect/leap motion via dmx

Rendering and compositing tricks

d5_ex4: depth of field - rendering depth pass and plug into luma blur TOP

d6_ex2: render select TOP - multi pass render

d6_ex3: remap TOP - image warping

Kinect - rgb/depth/point cloud - body tracking

Advanced rendering - PBR (physically based rendering)

d6_ex4: environment light, metallic surfaces, soft reflections - substance shader: shader builder

Day7 :12 novembre, 9-19.00

PROJECT DEVELOPMENT - LAB

REFERENCES

Video tutorials:

<https://derivative.ca/community>

python scripting

https://www.derivative.ca/wiki088/index.php?title=Working_with_OPs_in_Python

TUTORIALS

<http://matthewragan.com/category/how-to/touchdesigner/>

<http://matthewragan.com/2014/03/05/touchdesigner-these-are-the-dats-youve-been-looking-for/>

<http://matthewragan.com/2014/03/06/touchdesigner-replicators-and-buttons-and-tables-oh-my/>