Getting Started in Touch Designer | Presented by Mary Franck | mary@maryfranck.net

Part 1:

Showcase projects made with TouchDesigner
Introduction to TouchDesigner, nodes, parameters, navigation
Opertator types and data conversion
Project1.1: Making a network: Texture Operators (TOPs)
Project1.2: Making another network: Channel Operators (CHOPs)
Referencing other operators: adding CHOP references to TOPs. chop("*operator/channel*")
Saving and loading components; palette browser.
Project1.3: Make a CHOP-controlled TOP network and save it out as a component.
Noise, feedback modules

Notes for Part 1:

Good coding practice: Modularity - Saving a component out as a .tox file makes it portable. Optionally, one can
define a path variable to aid consitent path references.
Good coding practice - clarity. Use descriptive names for your containers, operators, and channels. Tack a null operator at the end of your functional network with a name that describes the final results of the network. Split large networks into modules. In any debug statements in scripts, include the path of the script.

Tutorials and resources for Part 1:

Introduction to TouchDesigner: http://derivative.ca/wiki077/index.php?title=Tutorials#An_Introduction_to_TouchDesigner
Operator types:
http://www.derivative.ca/wiki077/index.php?title=Tutorials#Introduction_to_the_Operators
TOPS - Texture Operators operate on pixel data. Compositing, transforming, processing, rendering.
http://derivative.ca/wiki077/index.php?title=TOP
Top 5 TOPs: MovieIn, Composite, LumaLevel, Render, Noise
CHOPS - Channel Operators operate on signal data. Samples, sample rate, noise, waves, periodicity, logic gates.
http://derivative.ca/wiki077/index.php?title=CHOP
Top 5 CHOPs: Math, Limit, Noise, Expression, OSC in

Part 2: build a simple scene with 3d element control.

SOPs, Camera, Render! Realtime graphics.
Surface Operators, the Geometry Component.
Project2.1: Make an arrangement of SOPs.
Materials -determine the appearance of Surfaces with maps, lights, alpha, blending.
Project2.2 Texture the SOPs with imagery from Project 1.3.
Camera Component, Render TOP.
Project2.3: Add controls to Surfaces, Geometry and Camera
Instancing
Advanced topic: Texture & normal manipulation.
Advanced topic: Using GLSL in TouchDesigner

Notes for Part 2:

Operator focus: Surface Operators SOPs generate or operate on 3d shapes. Different effects are acheivable using polygon/mesh/nurbs. A point on a surface has data for 2 coordinate systems: position (x,y,z) and also texture space (u,v,w). Familiarize yourself with textures, normals and materials.
Good coding practice: Efficiency, optimization Texture operators are incredibly handy for scaling and

compositing images. However, they eat up valuable GPU memory. To the exent possible, combine and animate images on surfaces and render them all together. With all of your source images, downres the input to correspond more closely with its ultimate screenspace resolution. Similarly, reduce the resolution/number of samples of models and data sets where possible. Middle mouse clicking on an operator will reveal recourceallocation
data such as GPU memory, number of samples, and number of points & vertices.

Tutorials and resources for Part 2:

Introduction to SOPS, Geometry, materials:
http://www.derivative.ca/wiki077/index.php?title=Introduction_To_SOPs_Vid
MATS - Materials determine the appearance of Surfaces. Maps, lights, alpha, blending.
http://derivative.ca/wiki077/index.php?title=MAT
COMP: Cam - Camera component: fov, winroll, lookat, background.
http://derivative.ca/wiki077/index.php?title=Camera_COMP
COMP: Geo - Geometry component: translation, materials, instancing, render and display flags.
http://derivative.ca/wiki077/index.php?title=Geometry_COMP