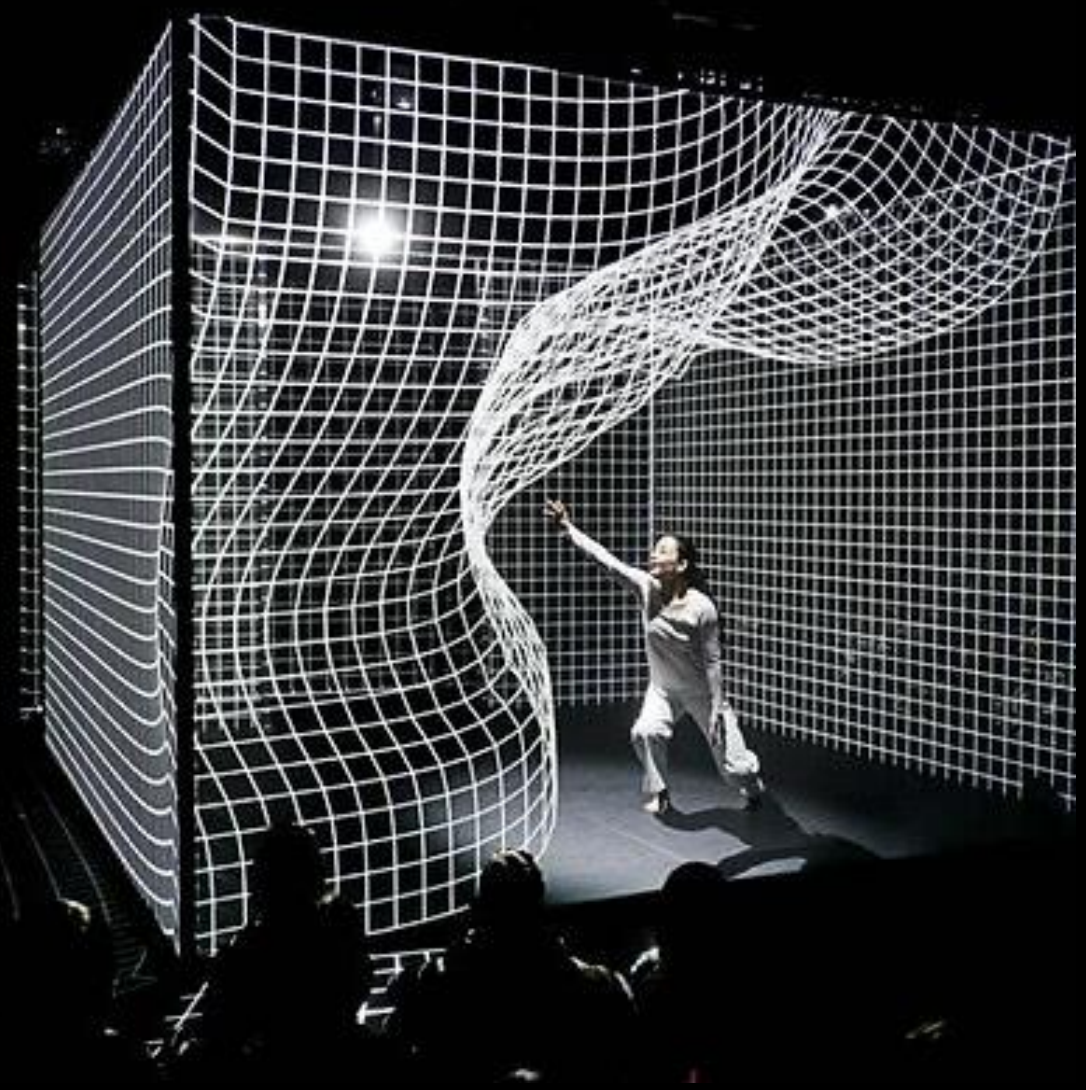
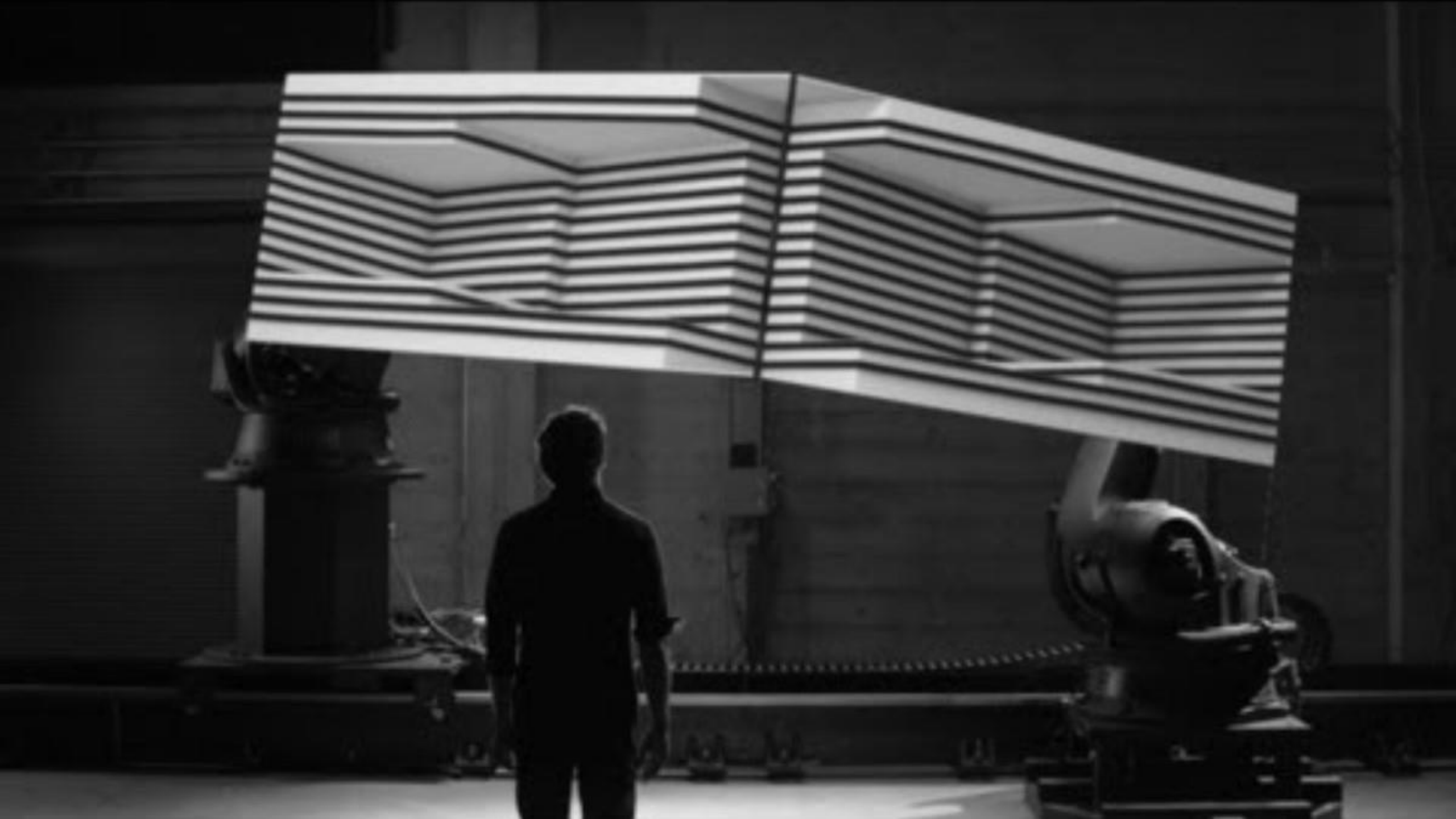
CLASS VII – PROJECTION MAPPING

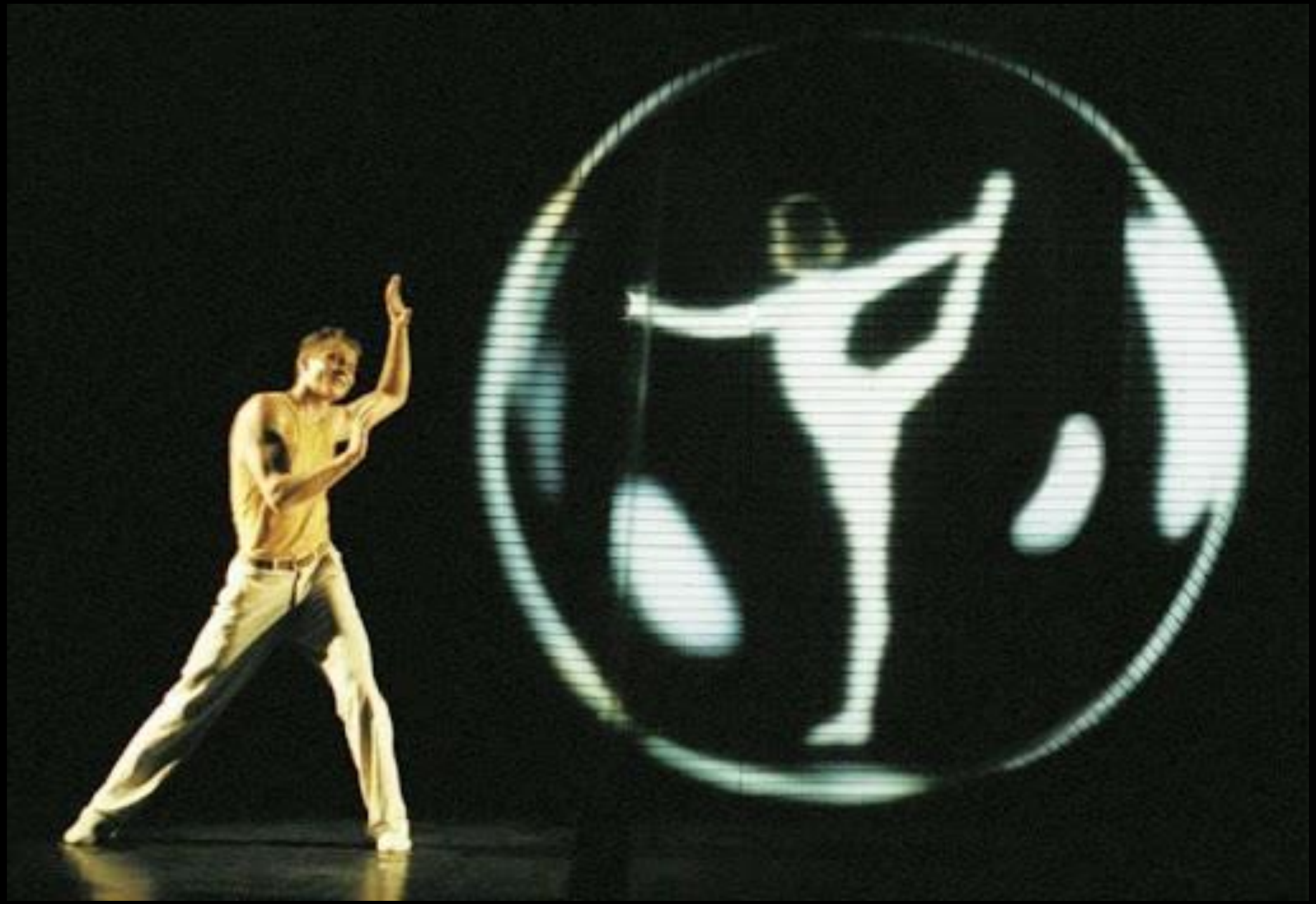




A SMALL HISTORY OF PROJECTION MAPPING

- When we talk about projection mapping we often refer to being able to project only within a certain set of bounds or regions defined by the user.
- This allows you to project with high precision onto facades of a building, spatial objects or even humans or fashion.
- Often it is used to make something look like something else.

- Projection mapping has been around since a very long time, around 1950's, and was referred to as painting with light. And utilized with blocking shapes and parts from a lens of a light or a projector. Introduced by Josef Svoboda at Lanterna Magicka at EXPO58.
- For a very long time it was very hard and computational intensive to do software mapping and having real hands-on control of your surfaces.



AROUND THE 1980'S

- Projection mapping is resurfaced in an installation of Michael Naimark. In this installation het filmed people interacting with objects in a original room and projects that into a white room filled with blank representations of the objects interacted with.
- Then in 1984 and 1990's projection mapping was again used in larger scale productions but it wasn't until 2001 that artists and other creatives started using the technique. This was mostly due to costs of the computer and projector at the time.

MICHAEL
NAIMARK

FOR A LONG TIME MAPPING WAS ANNOYING

- It took a very long time to make an actual mapping, this was due having to capture the scene you want to map with a camera with the exact same lens as your projector. Drawing masks or shapes in photoshop or illustrator. Editing an animation for that mask in After Effects, rendering it out and finally seeing if it would fit on the actual surface.
- For a long time it was not possible to make the mask in an interactive way with direct feedback.
- But then in 2010 MadMapper was released by 1024 Architecture.

MadMapper was the first mapping software that allowed you to draw the projecting mask in the program directly as where also your animations live.

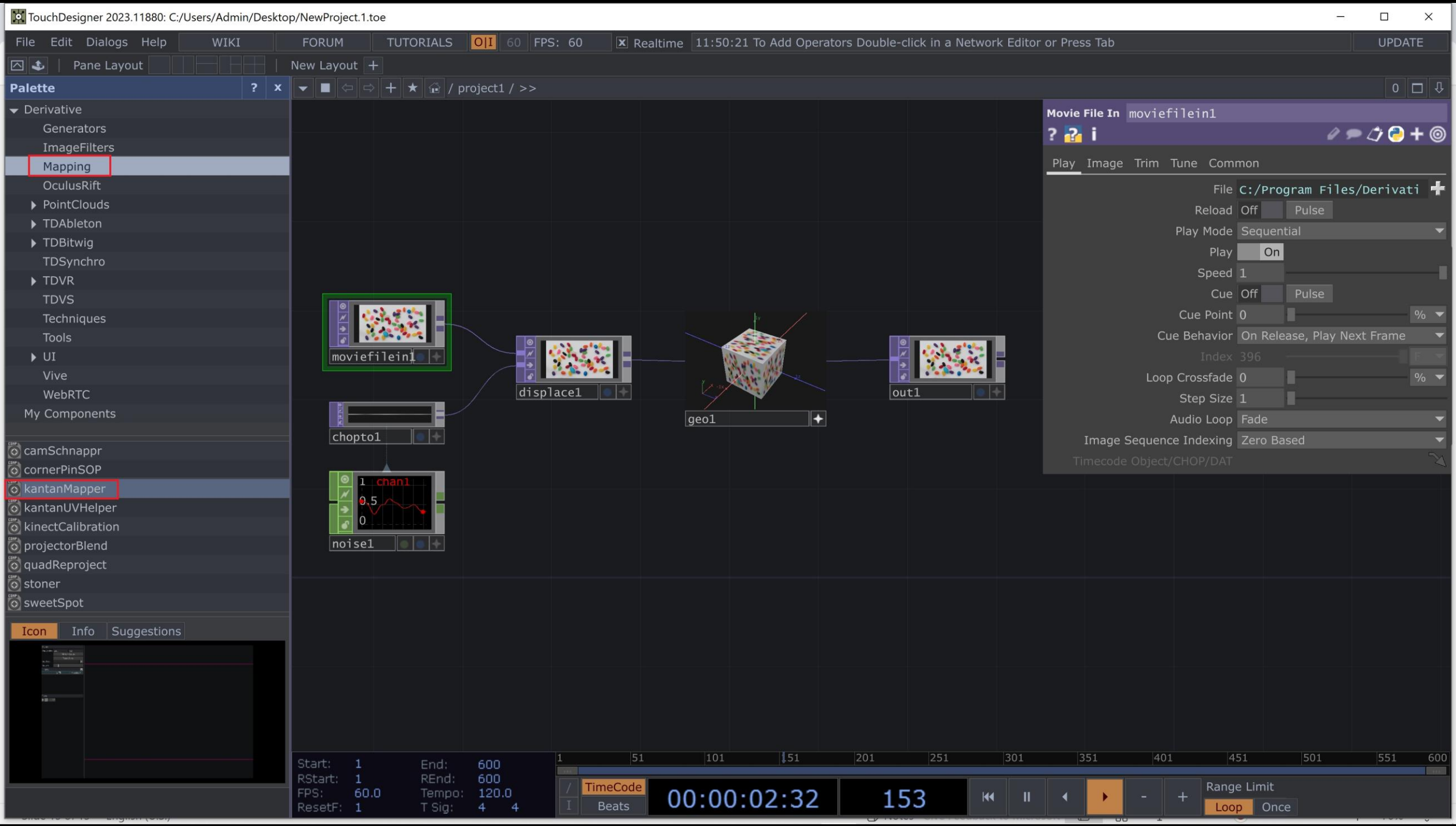
You were able to make masks, transitions, basic video changes and cueing of different scenes.

It was a real game changer due to the fact that it dramatically changed the workflow and speed. Since then many vj's and artists picked up the craft of projection mapping.

MAPPING MADE EASY

- Even though projection mapping was made available for the masses through MadMapper and programs like Resolume it could still be a hassle. Those programs focus on mapping itself and not the content. So you would often still have to make an animation in a different program that would fit to your needs.
- TouchDesigner introduced Kantan Mapper and made things a whole lot easier, all of a sudden it was possible to create content on a generative level that was reacting to cues and triggers and map the content to the outside world on a feedback level.

A QUICK GUIDE HOW TO ACCESS AND SETUP MAPPING IN TOUCHDESIGNER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Pane Layout New Layout
Palette
Derivative
Generators
ImageFilters
Mapping
OculusRift
PointClouds
TDAbleton
TDBitwig
TDSynchro
TDVR
TDVS
Techniques
Tools
UI
Vive
WebRTC
My Components
camSchnappr
cornerPinSOP
kantanMapper
kantanUVHelper
kinectCalibration
projectorBlend
quadReproject
stoner
sweetSpot
Icon Info Suggestions
/ project1 / >>
moviefilein1
displace1
geo1
out1
chopto1
noise1
chan1
Movie File In moviefilein1
Play Image Trim Tune Common
File C:/Program Files/Derivati
Reload Off Pulse
Play Mode Sequential
Play On
Speed 1
Cue Off Pulse
Cue Point 0
Cue Behavior On Release, Play Next Frame
Index 396
Loop Crossfade 0
Step Size 1
Audio Loop Fade
Image Sequence Indexing Zero Based
Timecode Object/CHOP/DAT
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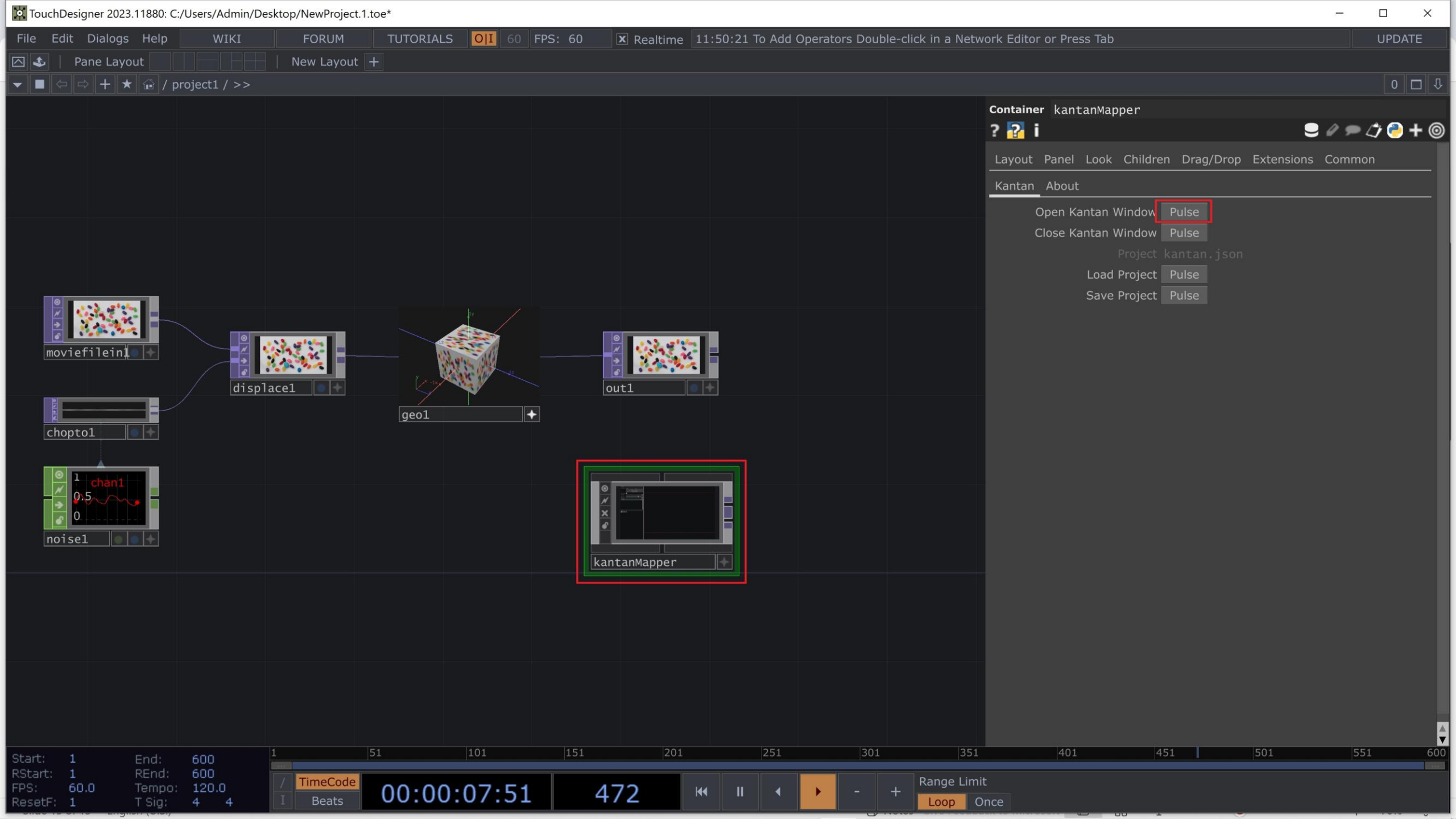
Loop Once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displace1
geo1
out1
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noise1
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Open Kantan Window Pulse
Close Kantan Window Pulse
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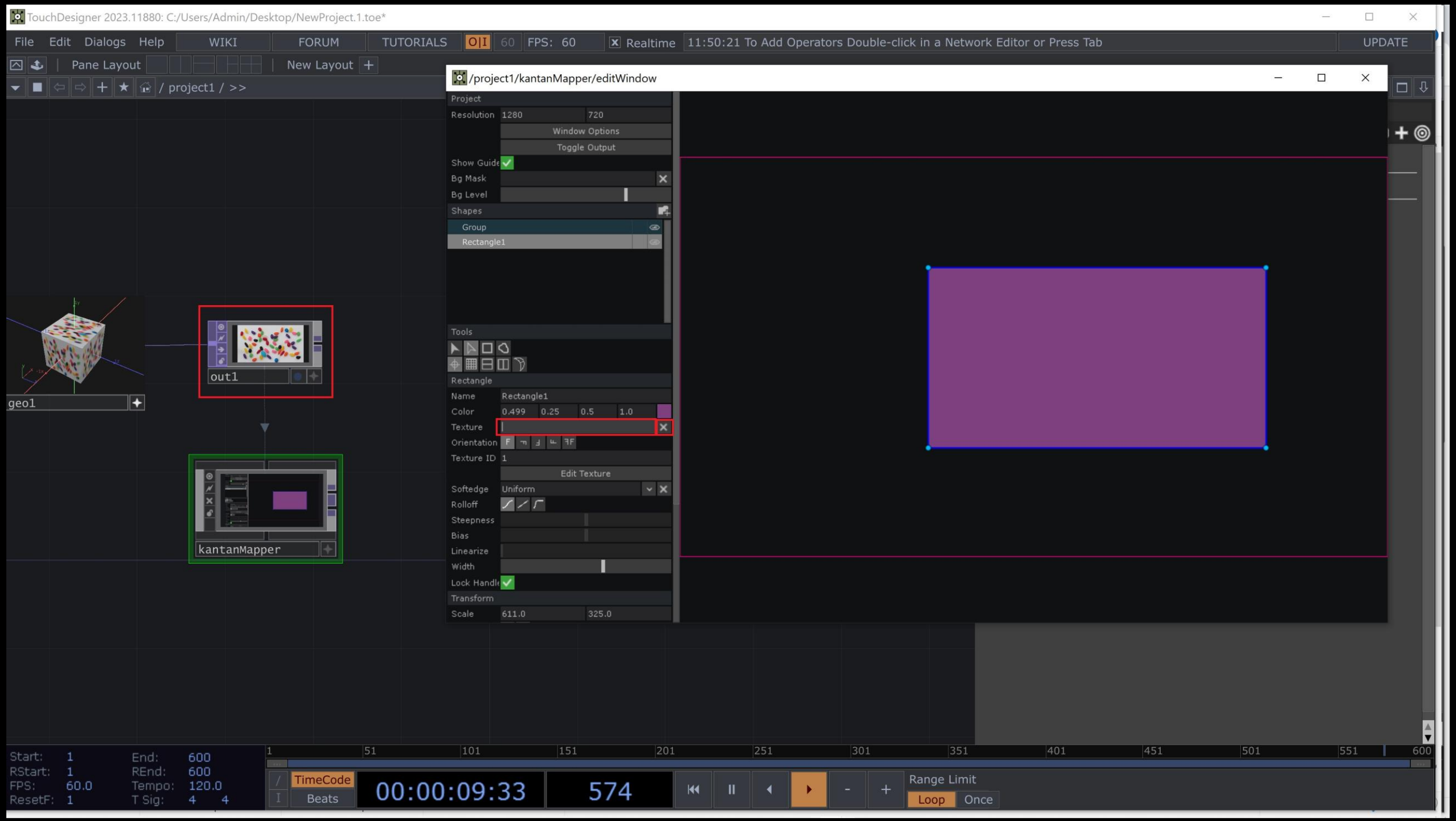
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/ project1 / >>
/project1/kantanMapper/editWindow
Project
Resolution 1280 720
Window Options
Toggle Output
Show Guide
Bg Mask
Bg Level
Shapes
Group
Rectangle1
Tools
Rectangle
Name Rectangle1
Color 0.499 0.25 0.5 1.0
Texture
Orientation
Texture ID 1
Edit Texture
Softedge Uniform
Rolloff
Steepness
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Linearize
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Lock Handle
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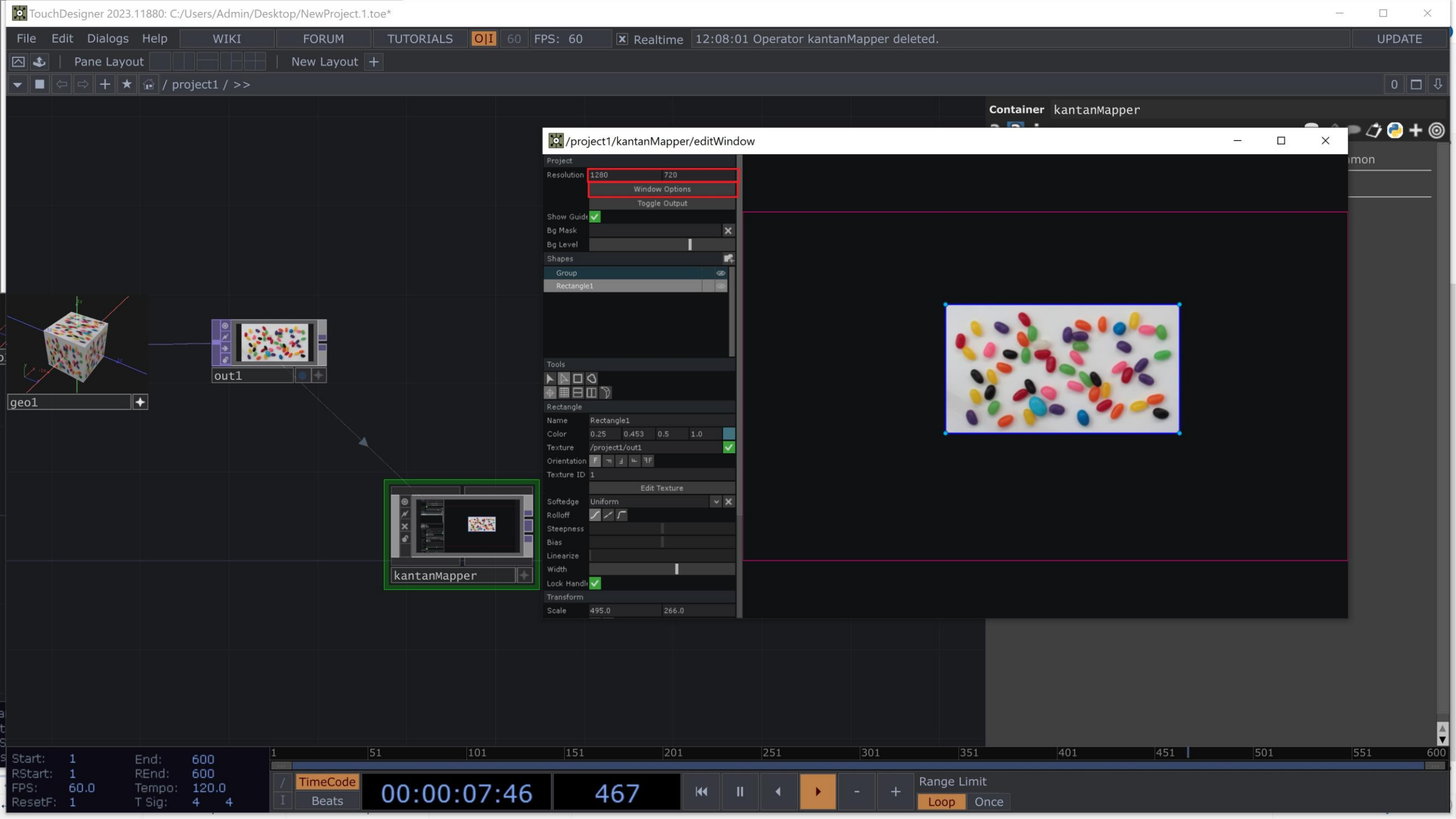
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Toggle Output
Show Guide
Bg Mask
Bg Level
Shapes
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Rectangle1
Tools
Rectangle
Name Rectangle1
Color 0.25 0.453 0.5 1.0
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Texture ID 1
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Loop Once

TouchDesigner 2023.11880: C:/Users/Admin/Desktop/NewProject.1.toe*

/project1/kantanMapper/project/window1

File Edit Dialogs Help WIKI FORUM TUTORIALS

Pane Layout New Layout

/ project1 / >>

Window window1

Window Extensions Common

Window Operator onScreen

Title /project1/kantanMapper/proj

Justify and Offset To... Specify Monitor

Ignore Taskbar On

Monitor 1

Justify Horizontal Left

Justify Vertical Bottom

Offset 0 0

Shift to Single Monitor Off

DPI Scaling Native

Opening Size Automatic from Panel COMP/TOP

Width Automatic from Panel COMP/TOP

Height Fill

Update Settings from Window Custom

Single Monitor Exclusive

Borders Off

Include Borders in Size Off

Always on Top Off

Cursor Visible When Moving

Constrain Cursor Off

Cursor Monitor 0

Close on Escape Key On

Allow Viewer Interaction Off

Allow Minimize On

V-Sync Mode Disabled

Draw Window On

Hardware Frame-Lock Off

OpenGL Stereo Off

Right Eye Operator

Open as Perform Window Perform

Open as Separate Window Open

Close Close

Container kantanMapper

geo1

out1

kantanMapper

Start: 1 End: 600

RStart: 1 REnd: 600

FPS: 60.0 Tempo: 120.0

ResetF: 1 T Sig: 4 4

TimeCode

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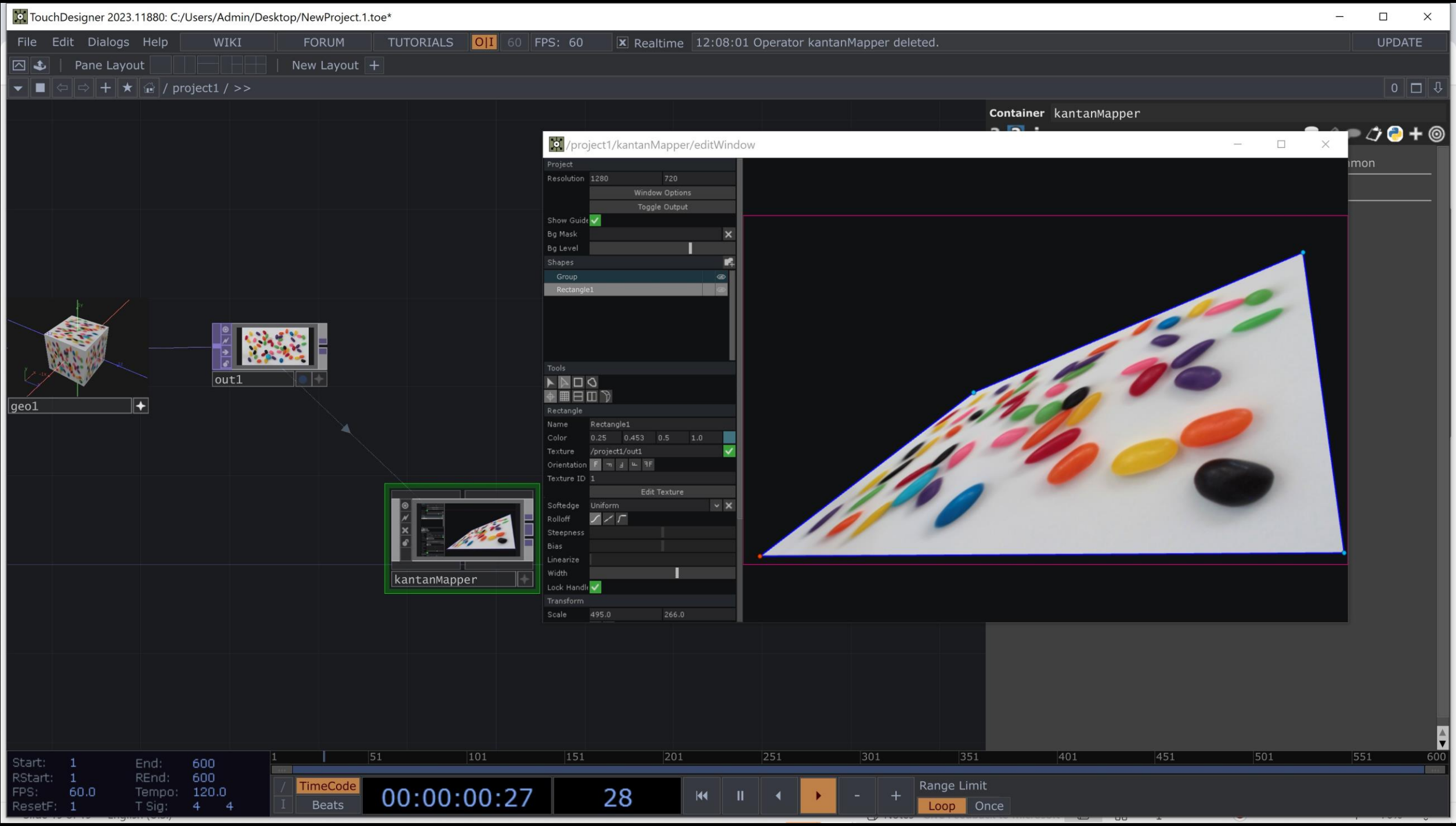
Range Limit

Loop Once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FPS: 60
Realtime
12:08:01 Operator kantanMapper deleted.
UPDATE
Pane Layout
New Layout
/ project1 / >>
Container kantanMapper
/project1/kantanMapper/editWindow
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Bias
Linearize
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Lock Handle
Transform
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Start: 1
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FPS: 60.0
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Range Limit
Loop
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STEP BY STEP

- step 1: find the kantan mapper object in the pallette browser under the tab 'Mapping' you can find the pallette browser at 'dialogues' at the top of your program if you closed it.
- step 2: Click and drag Kantan Mapper into your project field, when it is placed a parameters window will open, allowing you to pulse to open the Kantan Window.

STEP BY STEP

- step 3: Select the quad draw option and draw a generic rectangle to open up the functions and options. Among the options there is a name field 'Texture' drag and drop the operator holding your final animation onto the field and release, it should read something like: 'project1/out1' where project1 is the number of your project, usually 1 and 'out1' is the name of the operator holding your animation. This could be anything. Don't forget to tick the little box with the 'X' inside to activate your texture and you should see the animation now being displayed inside the quad.
- step 4: Put in the resolution of your projector, usually this is full HD which is: 1920X1080.
- Then click the button for the 'window options', this will open up several options which are very important: set monitor to 1, this means it will address the external monitor or projector. At opening size tick the dropdown menu to select 'fill', this will open the mapping window at full screen. Then finally at the bottom you can tick the 'Open as Seperate window' which will activathe the actual output and you can start manipulating the vertices to make the mapping fit.