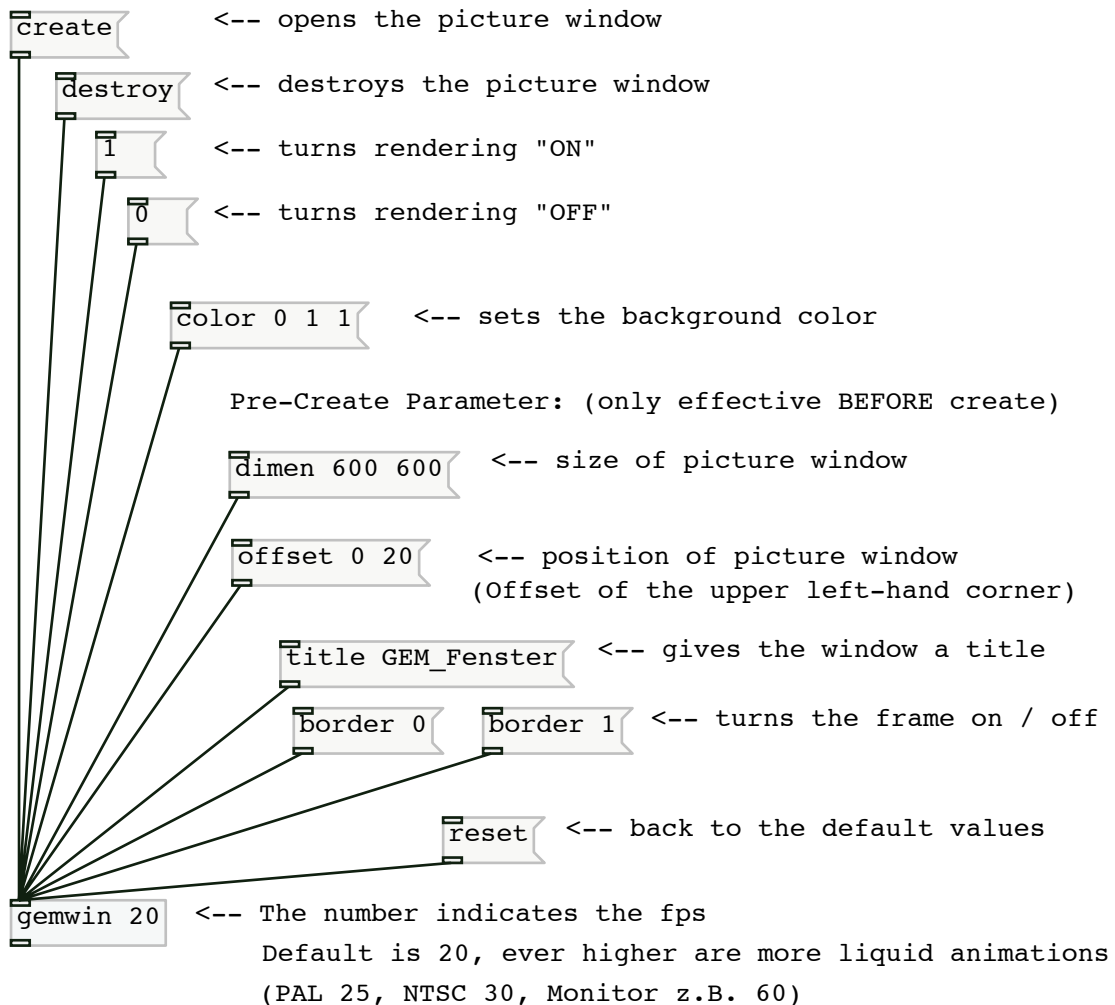


Gem_or_image_window

"Gem" (Graphics Environment for Multimedia) is a library called the PD makes 3D, image and video suitability.

<http://gem.iem.at>

Minimal parameters:

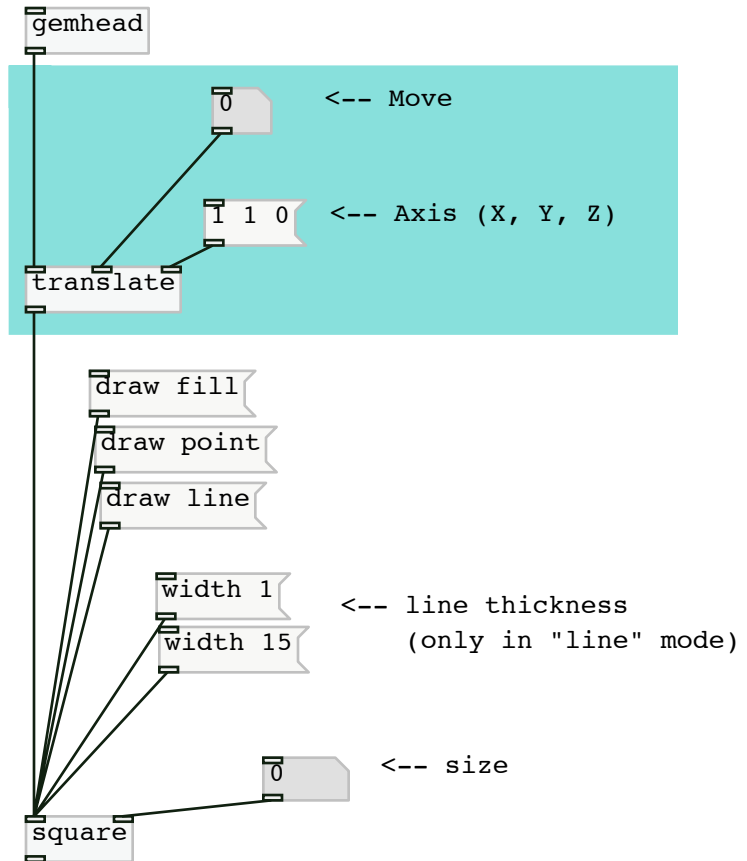
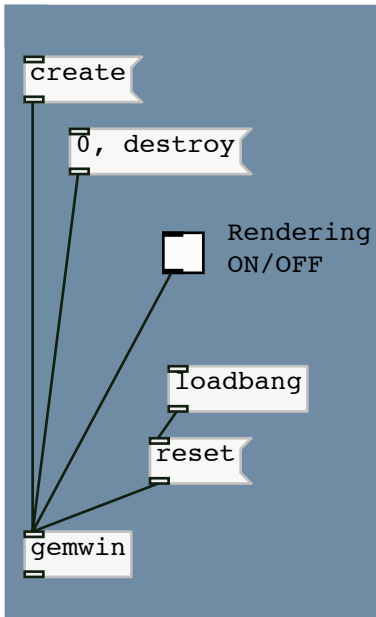


With [gemwin] you control the image window.

It is important to follow the order: build 1 patch, 2 Gemwin oeffnen, 3 Start rendering. And the other way around back.

It makes sense, therefore, instead of the message [destroy ([0 to use destroy (

Gem_Moving_Objects



[gemhead] starts the render chain, all Gem objects lined up in this strand.

The object [translate] it is also the variant [translateXYZ] has an input for each direction.

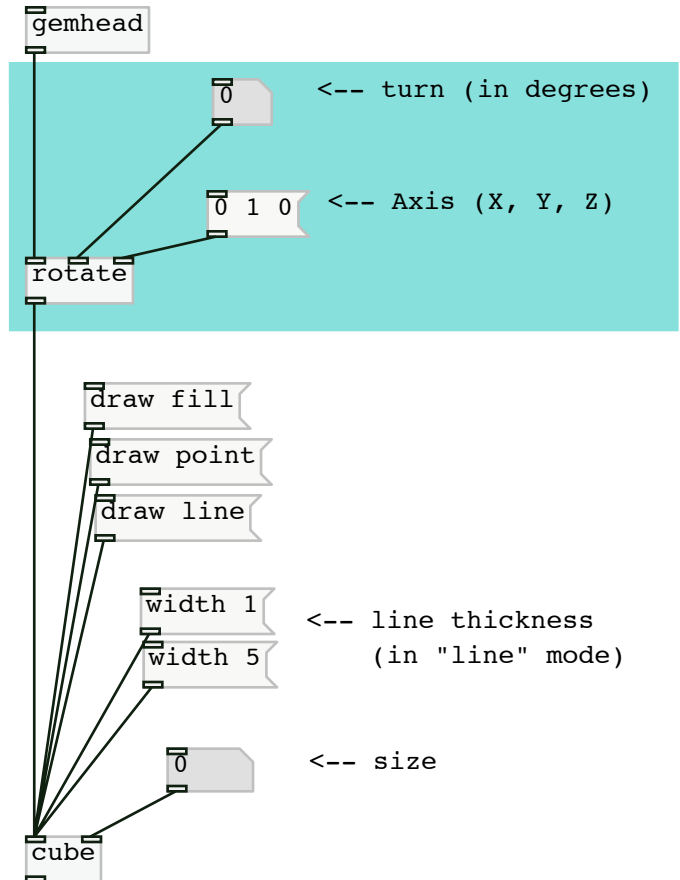
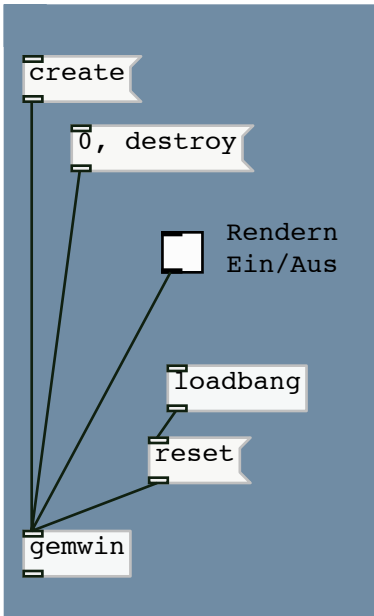
```
translateXYZ
```

task:

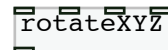
Modify the patch so that a rectangle with the Seitenverhaeltnis 3:4 on the Y-axis moves.

Use the object `rectangle` instead of [square].

Gem_Object_Rotation



The object [rotate], there is also the option [rotateXYZ] has an input for each axis.

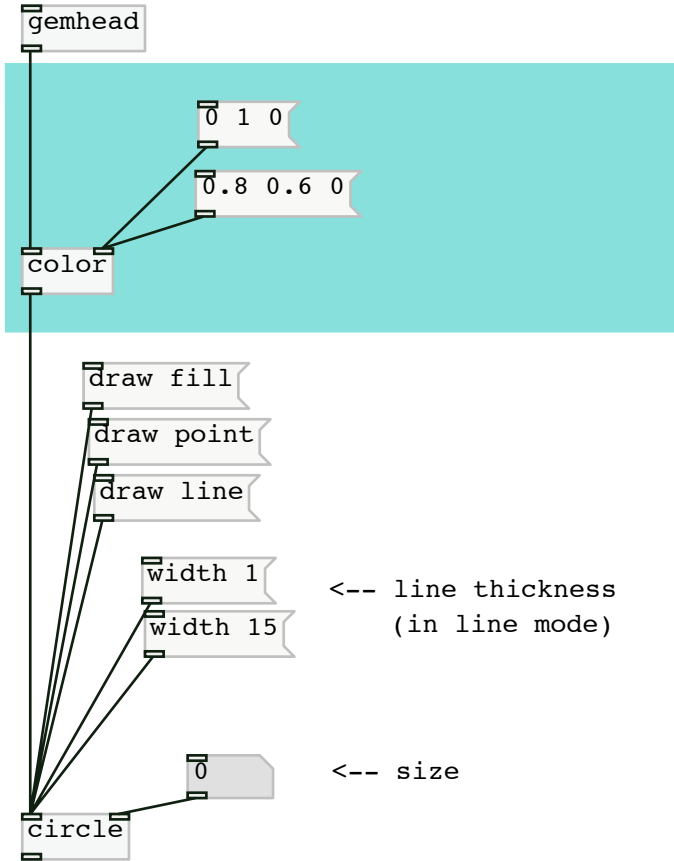
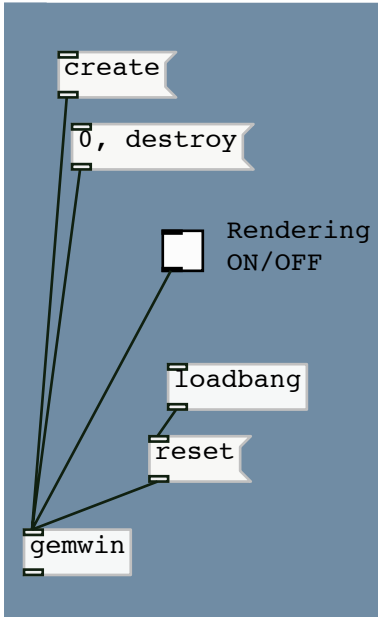


task:

Modify the patch so that a 3D rectangle with the 1:3:4 Seitenverhaeltnis rotates about the X axis.

Use the object `cubeoid` instead of [cube].

Gem_Object_Colors



The object [color] there is also the option [colorRGB] has an input for each color.



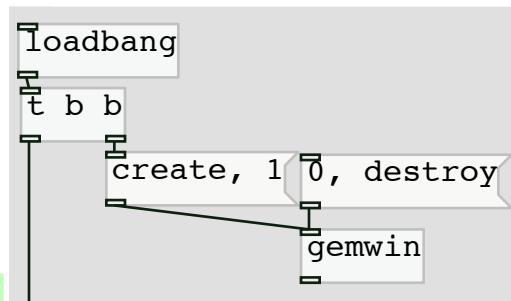
task:

Modify the patch so that a cylinder with the red Seitenverhaeltnis 3:4 rotates about the X axis.

Use the object `circle` instead of [circle].

Play_Video:

Using [pix_film] to play a video on the GEM window:



Messages for GEM window with [gemwin]:

"create" creates GEM window / "destroy" destroys it!

"1" starts rendering, "0" stops!

<== [gemhead] sends rendering command.

"auto 1" plays in loop, "auto 0" pauses. "auto 1" resumes from pause unless the file is reopened (going back to first frame).

open ./media/kolster.mov <== opens file. We could use [openpanel] for another file.

A video frame at 25 frames per second takes 40 miliseconds (for $1000/25 = 40$). A [metro] at 40 ms with a counter & [mod] can become a player in loop. The playing speed changes if you vary the time for [metro].

Sending frames randomly is cool too.

Both [metro] objects can be on at the same time in different time.

Right inlet is the frame number, only works if the object hasn't received "auto 1", or is set to "auto 0".

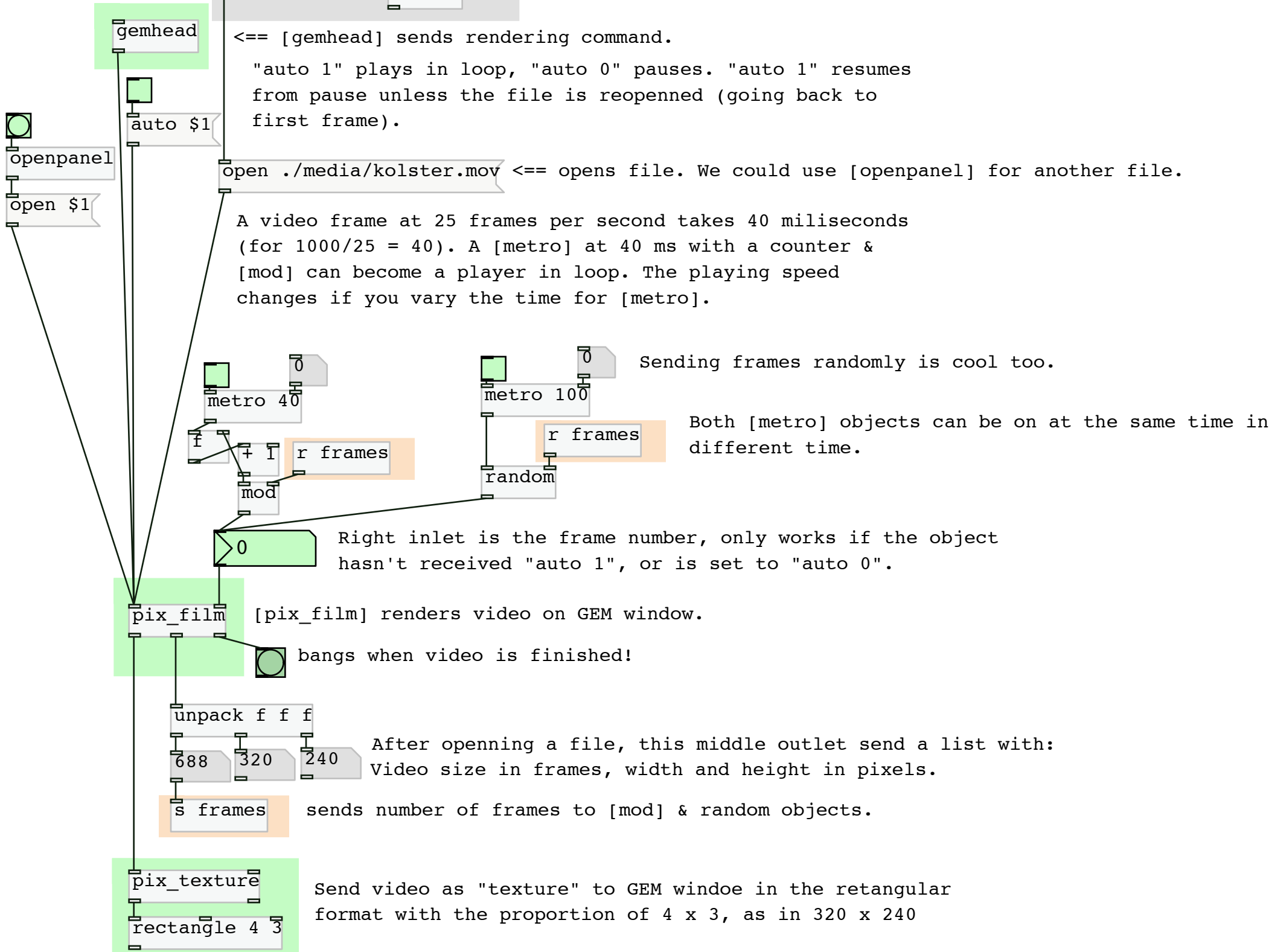
[pix_film] renders video on GEM window.

bangs when video is finished!

After opening a file, this middle outlet send a list with: Video size in frames, width and height in pixels.

s frames sends number of frames to [mod] & random objects.

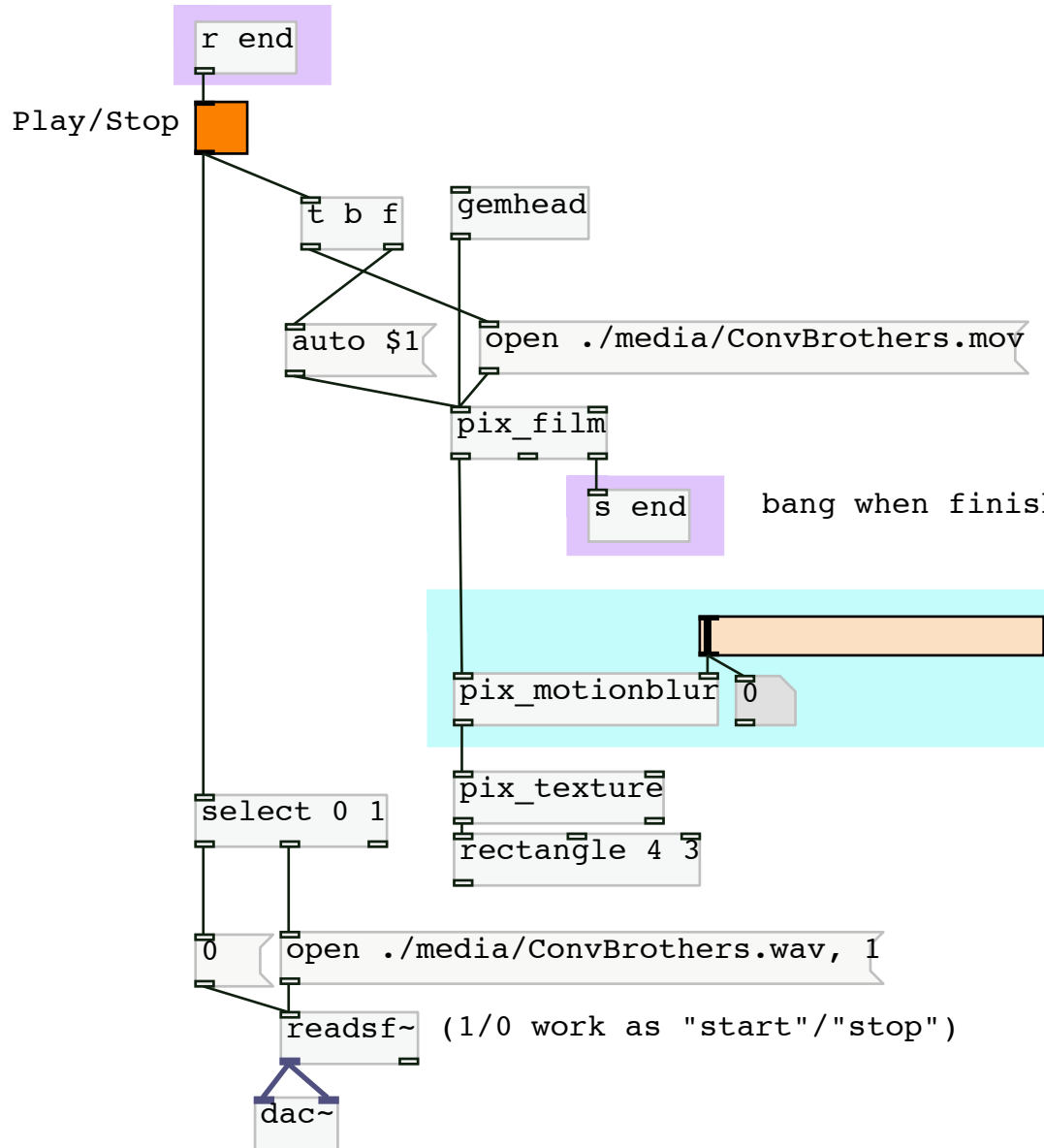
Send video as "texture" to GEM window in the rectangular format with the proportion of 4 x 3, as in 320 x 240



Video-Fx:

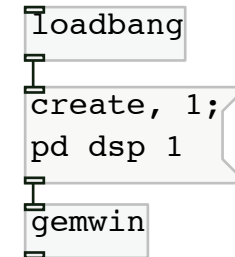
This is an example of applying video FX with [pix_motionblur], this examples is not in loop...

This is a short excerpt from the performance of the group "Convolution Brothers", formed by Miller Puckette, Cort Lippe and Zack Settel. The performance is from the Second International Puredata Convention in Montreal, Canada, 2007



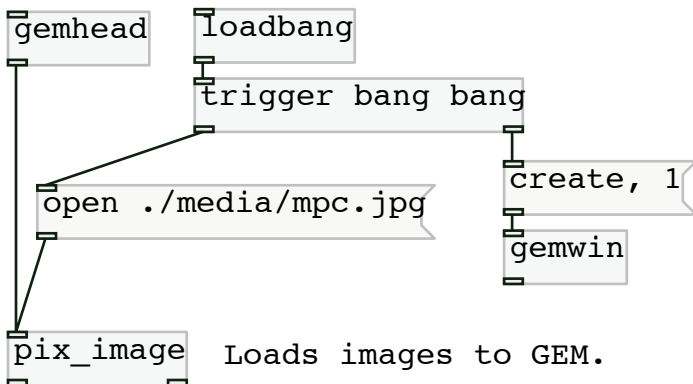
bang when finished stops everything.

[pix_motionblur] gets values from 0 to 1 and blurs the moving pixels. Move the slider to try it.



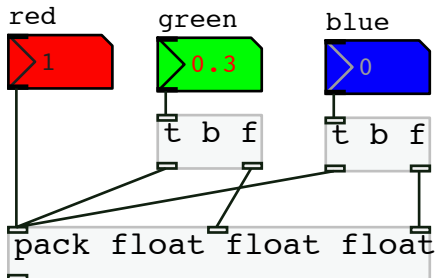
[pix_image]:

Not too different than [pix_film], [pix_image] loads images on GEM window, and again we use the objects: [pix_texture] & [rectangle]. Not only that, we also have the [color] object that applies coloring effects to the image.



Loads images to GEM.

Move this number boxes from 0 to 1, remember to hit "shift" for decimal changes.



[color] gets RGB values and applies to the image.

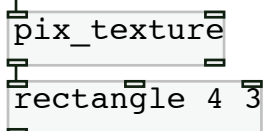
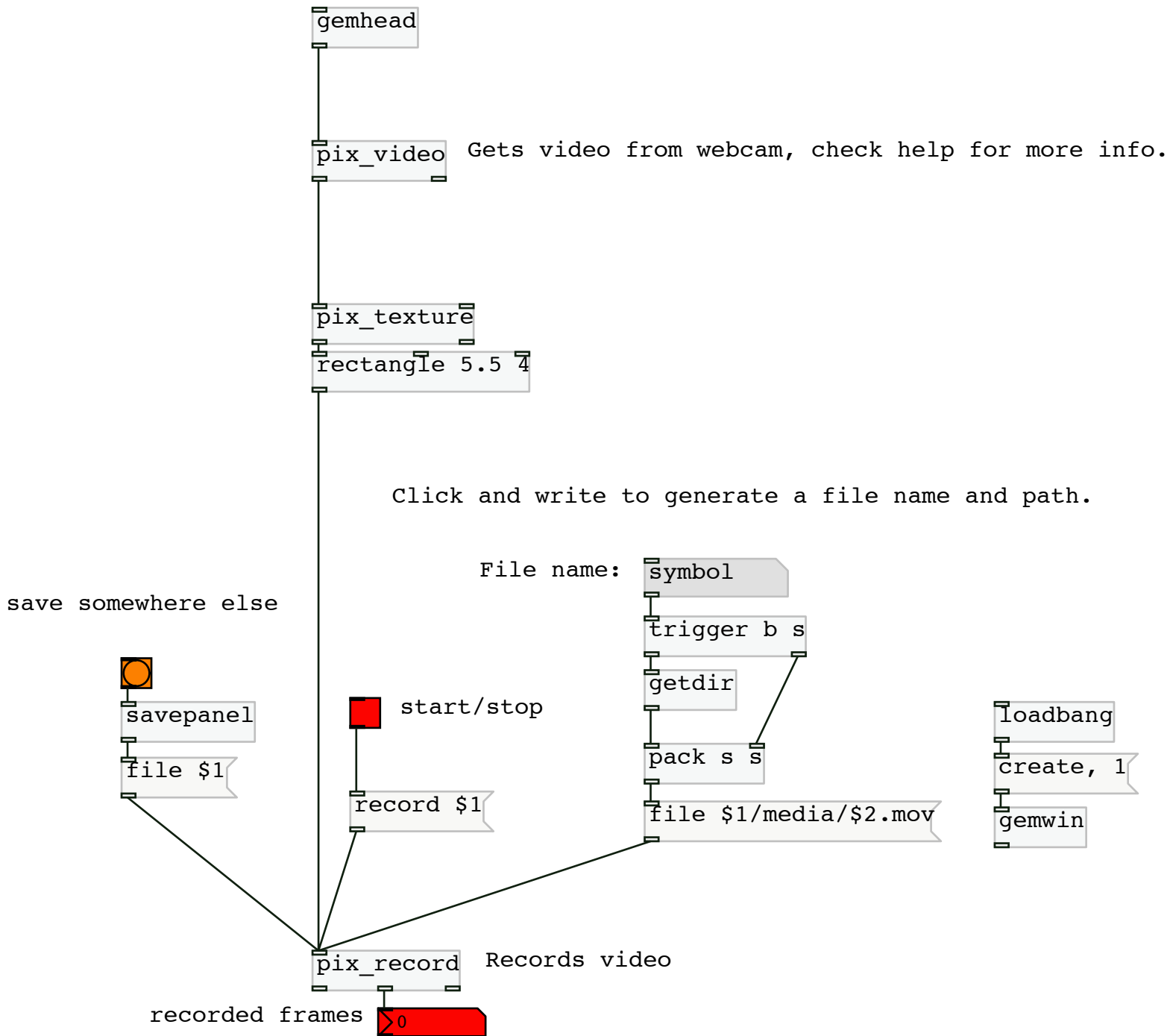


Image Credit:

Pictue from the performance of the group mpc2059 during the Third International Pd Convention.

Record_Video:

We can use [pix_video] & [pix_record] to record videos.



Check the subfolder media for the video...

Do not overwrite files!!!! It'll crash!!!! Change the file name! Use [savepanel] if you want to create another file somewhere else.