懶人とPythonとAnimation Studio

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★ 章節

1. 工作就輸了!
2. 沒C++,不會用Python嗎!?
3. 婊人者人恆婊之
4. 現在,很想Python
5. 沒有正派,沒有反派,只有All Py

★ 工作就輸了！

働いたら負け!

工作就輸了！

Changelog:
- CSIE,NCU (2002-2006)
- GINM,NTU (2006-2008)
- Platoon Leader, Military Police (2008-2009)
- 潛逃出境(?) (2009-2010)
- RD, Digimax Inc. (2010-current)

✦ 工作就輸了！

Spec:

- 略懂Python
- 略懂OpenGL
- Computer Graphics
- Like trying special programming language.
- Changjie input method native user.
- AviSynth script geek.

✦ 工作就輸了！

Jobs?

-> Game Industry

-> 3D Animation

-> Mobile

lazy -> often wait for result -> 3D Animation

工作就輸了！

- Touch Python in high school
- Then Java,Java,Java,…… and C++,C++, C++,……,Prolog in college
- Modify excel everyday in army
- Escape to Japan
- Use Python again in Digimax Inc.

沒C++,不會用Python嗎!?

水がなければ牛乳を飲めばいいのに
- by Hiromu Arakawa 荒川弘

✦ 沒C++,不會用Python嗎!?

Why we always speak Parseltongue in animation studio?

Because these Lord Voldemort force us to speak Parseltongue!

- Autodesk
- The Foundry
- Side Effects
- Blender Foundation

沒C++,不會用Python嗎!?
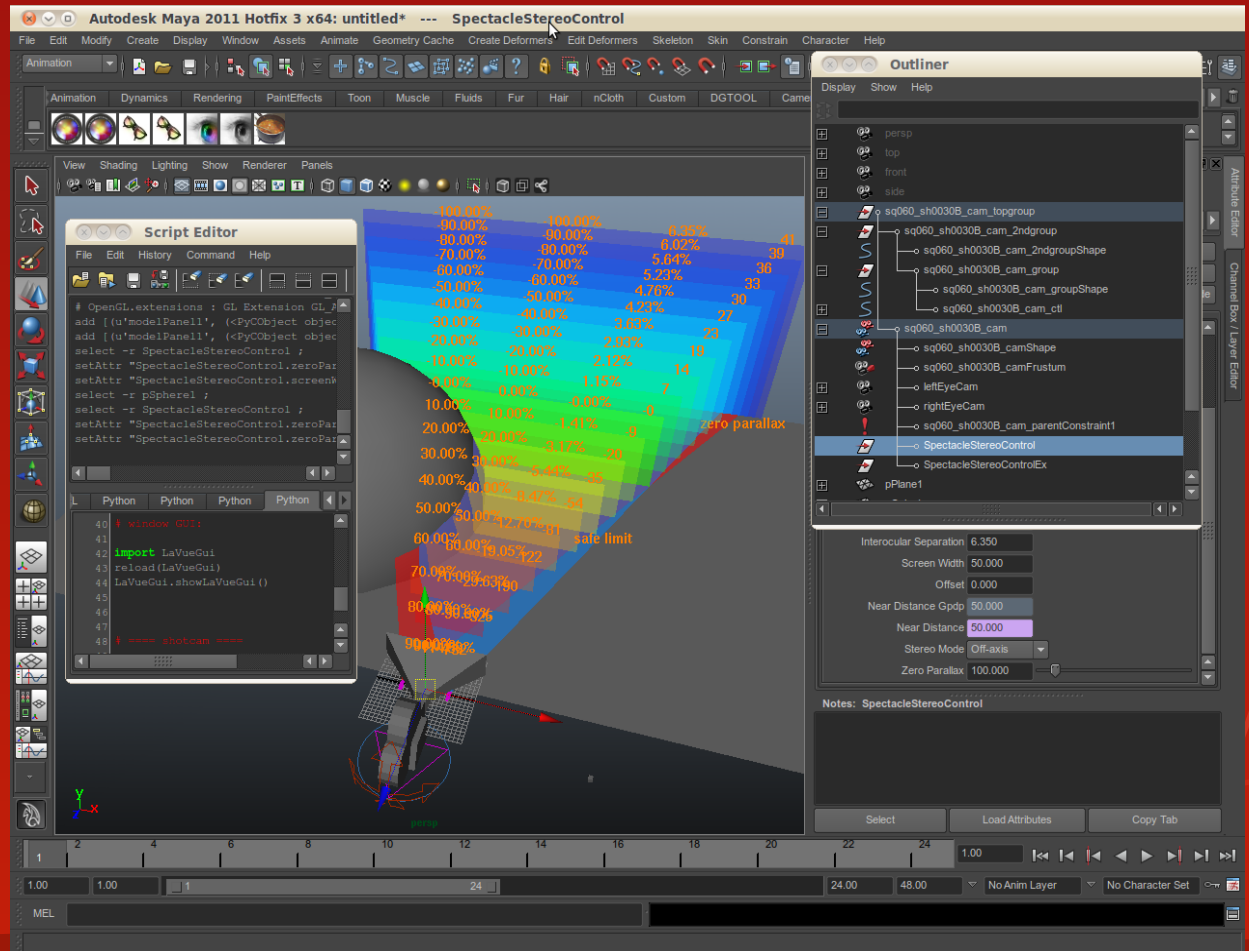
Embedded script:

Maya - MEL & Python

Nuke - Python

Houdini - HScript & Python

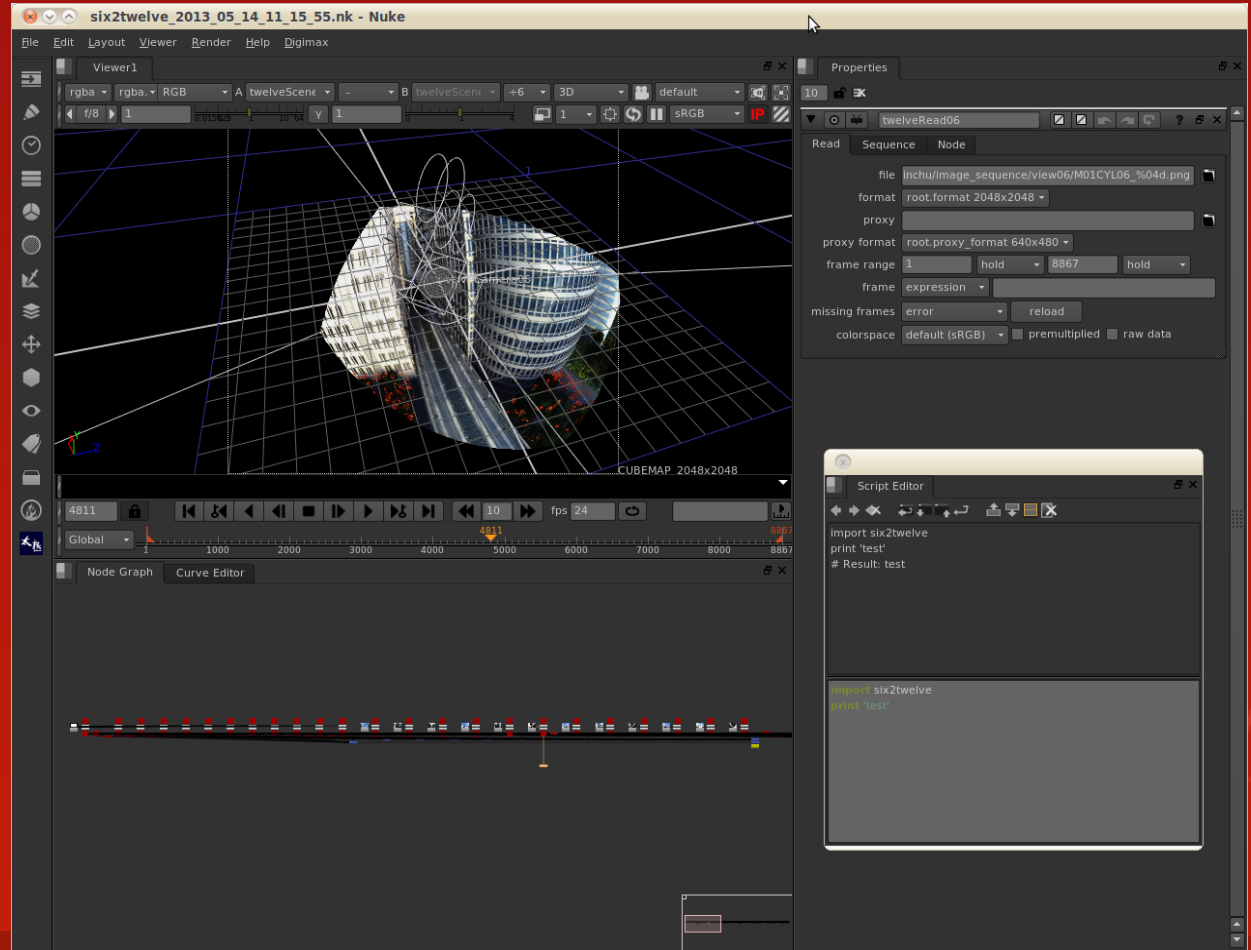Blender - Python

-> Python is the most common swiss knife.
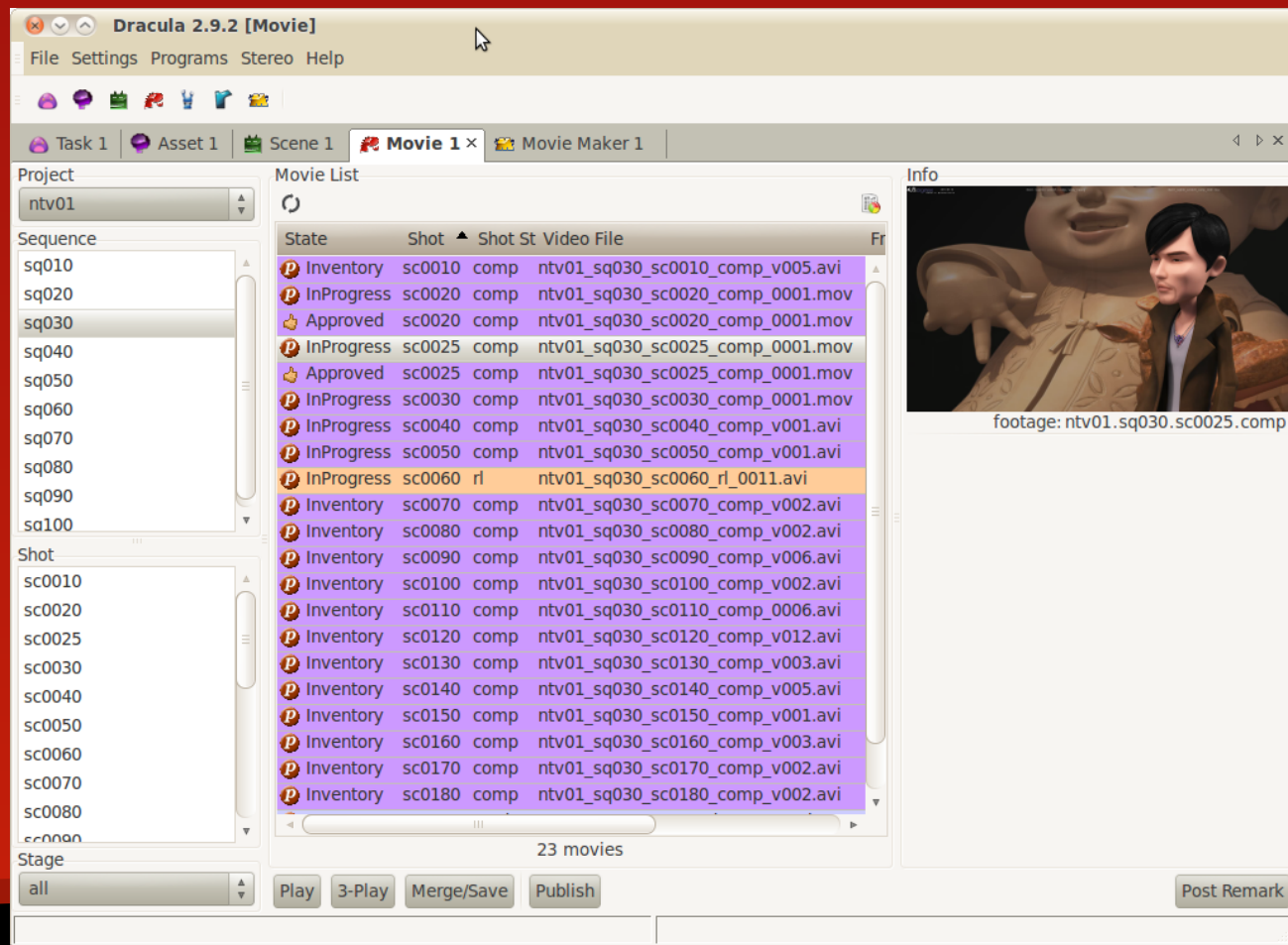
沒C++,不會用Python嗎!?

To build complex camera rig

沒C++,不會用Python嗎!?

To build huge node tree

沒C++,不會用Python嗎!?

Material management tools

沒C++,不會用Python嗎!?

Outside of commercial software?

Python

- easy to be integrated with Maya, Nuke,...
- fast prototyping
- easy to read

Bash

- control command line tool
- wrapper

沒C++,不會用Python嗎!?

publish movie to digital cinema projector

output to spherical theater:
World Expo Taiwan Pavilion in Hsinchu

婊人者人恆婊之

愛人者, 人恆愛之;敬人者, 人恆敬之
- by Mencius 孟軻

婊人者人恆婊之

eschaton (due date)
-> to producing animation easier
-> script for specific requirement
-> bug everywhere

婊人者人恆婊之

A tool we made for maya is always crash

```
>>> posX = mayaNode.positionX.get(),
…
…
>>> print posX-10.0
TypeError: can only concatenate tuple (not "float") to tuple
```

I waste whole day because of the last char ","

婊人者人恆婊之

User:
I run this Maya tools first time, it was ok.
Then I run this Maya tools again, it crashed!

Developer:
It is impossible! It couldn't be!
We even write restart procedure carefully!

婊人者人恆婊之

```
>>> import mymodule

>>> myinstance = mymodule.MyClass()
>>> reload(mymodule)
>>> isinstance(myinstance, mymodule.MyClass)
False
```

what the... (beep)

婊人者人恆婊之

Transcode from "{18..22} $oppai 'climax'.mov" to "output.mp4"

export oppai=歐派
>>> os.system('ffmpeg -i %s %s' % (input, output))

-> ffmpeg -i 18 19 20 21 22 歐派 climax.mov output.mp4

ffmpeg: 7 output.......?

婊人者人恆婊之

```
>>> def escapeShellArg(string):
>>>     return " ' "+string.replace(" ' ", " ' \\' ' ")+" ' "

>>> args = ' '.join(map(escapeShellArg, argv))
>>> os.system('ffmpeg -i '+args)


ffmpeg -i '{18..22} $oppai '\"climax'\".mov' 'output.mp4'
```

\\('3')/ < banzai!

婊人者人恆婊之

It succeeded! but:

- lost some frame of rendering result
- where is my image sequence?
- movie! movie! where are you!?

嫉人者人恆嫉之

because we code as below for server farm:

```
>>> def main(argv=sys.argv[:])
>>>     return 0 # always run this


>>> sys.exit(main())
>>> とりあえず sys.exit(0) # always run this
```

server farm system: YOU SAID OK! LIAR!!!

婊人者人恆婊之

beautiful baby:
I didn't assign these images, but the tools processed them!

婊人者人恆婊之

```
>>> def fun(array=[]):
>>>     array.append(1)
>>>     print a

>>> fun()
>>> fun()
```
Not funny, baby…

only immutable parameter could do this

婊人者人恆婊之

However, these coding style is everywhere until today. damn!

Solution: not exist

Reason:
- Yes, we are LAZY!!!
- No time!!! We have no time!!!
- If I don't finish this shot, PM will kill me!

現在,很想Python

いま、会いにゆきます
- by Takuji Ichikawa 市川拓司

現在,很想Python

- Batch copy, rename?
  - use Python!
- Calcuate fuel consumption?
  - use Python!
- Simplify file set, batch compile?
  - use Python!
- Die Hard!?
  - use Python!

Batch copy, rename, modify file content in Windows?

```
>>> for (currentDir, dirList, fileList) in os.walk('dirname'):
>>>     #do whatever you want
>>>     os.system('......')
```

现在,很想Python

Resize image?

PIL way:

```
>>> import Image
>>> Image.open('yourimage.png')
>>>
```
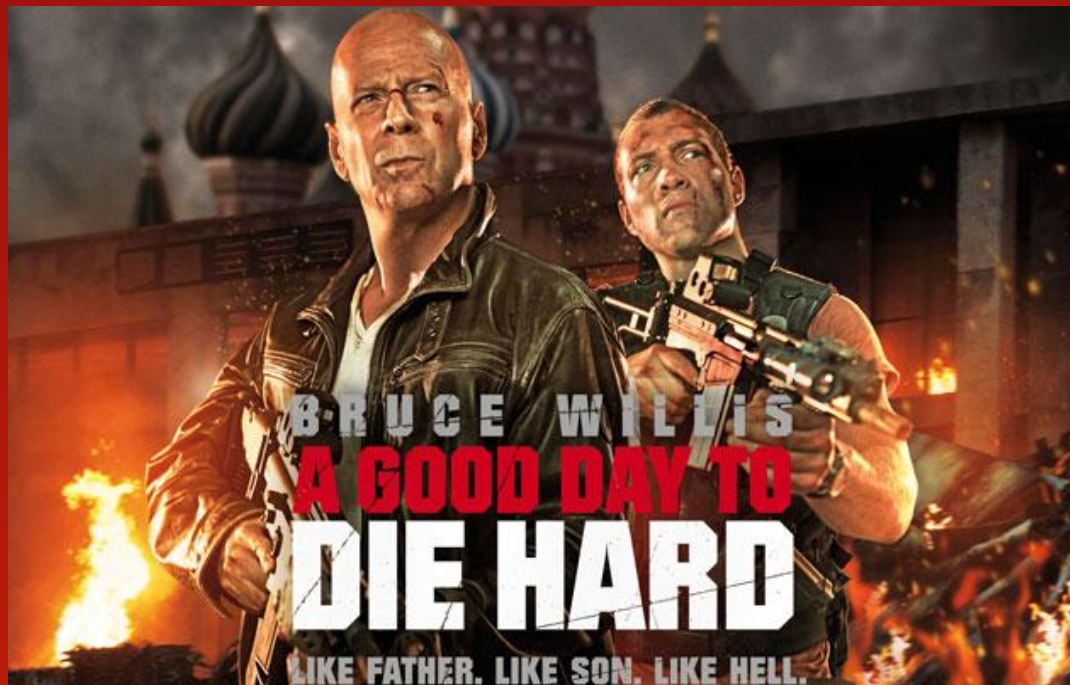
现在,很想Python

Resize image?

OpenCV way:

```
>>> import cv
>>> originalImage = cv.LoadImageM('original.png')
>>> size = tuple(map(lambda x: x/5, cv.GetSize(originalImage)))
>>> thumbnailImage = cv.CreateImage(size, cv.IPL_DEPTH_8U, 3)
>>> cv.Resize(originalImage, thumbnailImage)
>>> cv.SaveImage('thumb.png', thumbnailImage)
```

Die Hard!?

become McLain:

```
>>> try:
>>>     # do dangerous
>>> except (RuntimeError, OSError) as error:
>>>     # handle error
```

沒有正派,沒有反派,只有歐派
- 閃乱カグラ 少女達の証明

We are not Python geek.
What we have, what we use.
Fast development is the top rule.

おわり!

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