

懶人とPythonとAnimation Studio

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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)

Spec

- 略懂Python
- 略懂OpenGL
- Computer Graphics
- Like to try special programming language.
- Cannot live wothout Changjie IM.
- AviSynth script geek.

章節

1. 工作就輸了！
2. 沒C++, 不會用Python嗎!?
3. 嫩人者人恆嫩之
4. 沒有正派, 沒有反派, 只有All Py

工作就輸了！

工作就輸了！

能週休8日該有多好...



工作就輸了！



工作就輸了！

因為經濟壓力而覺醒



工作就輸了！

Video Game



3D Animation



Mobile App



どっち？

找工作...

工作就輸了！

聽說動畫都要算很久...



<https://www.youtube.com/watch?v=gBgcexFFl3E&hd=1>



沒C++,不會用Python嗎!?

沒C++,不會用Python嗎!?

- 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!?



動畫業界的工程師都會爬說語!?



沒C++,不會用Python嗎!?



那是被佛地魔強迫的!!!

沒C++,不會用Python嗎!?

- Autodesk
- The Foundry
- Side Effects
- Blender Foundation

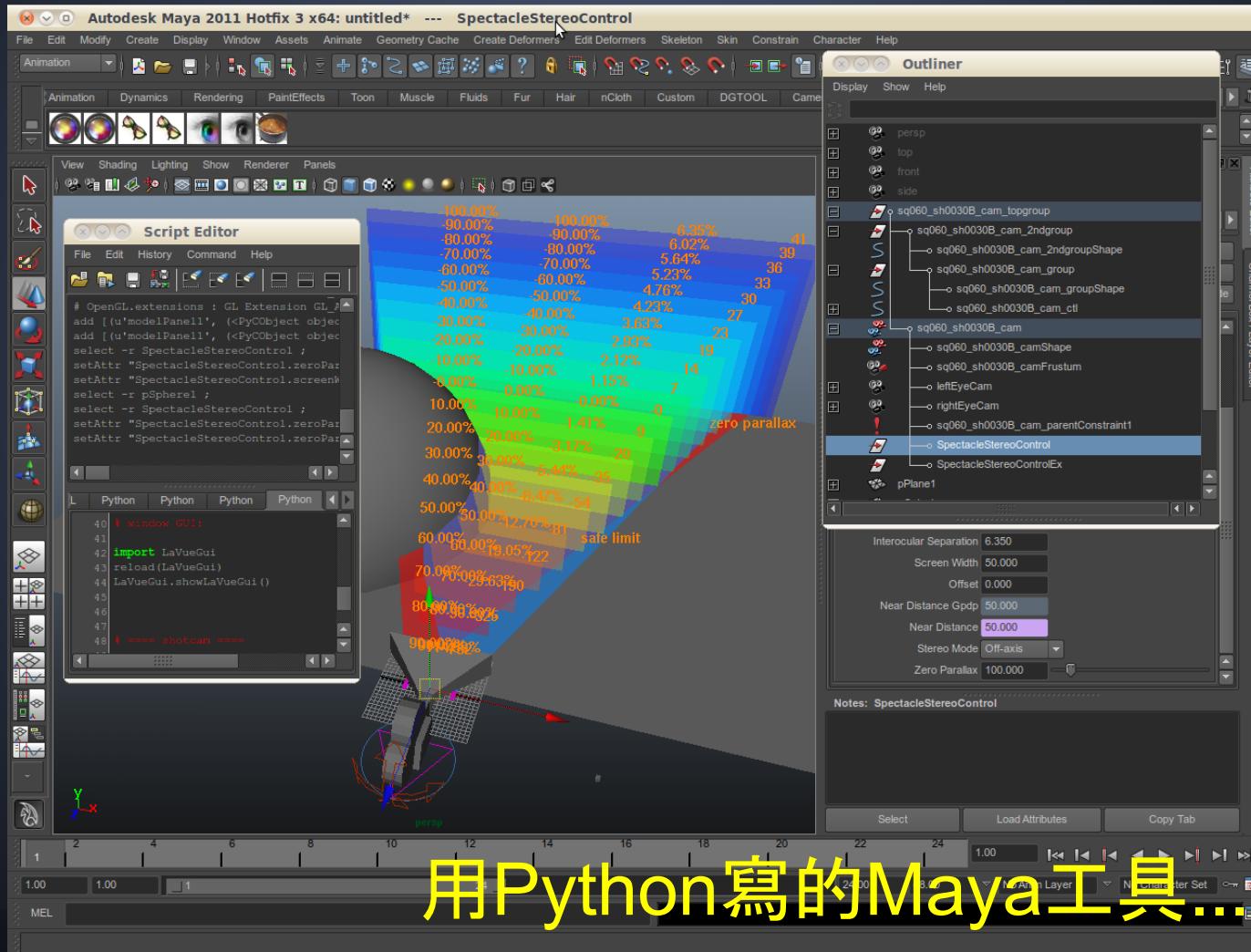


沒C++,不會用Python嗎!?

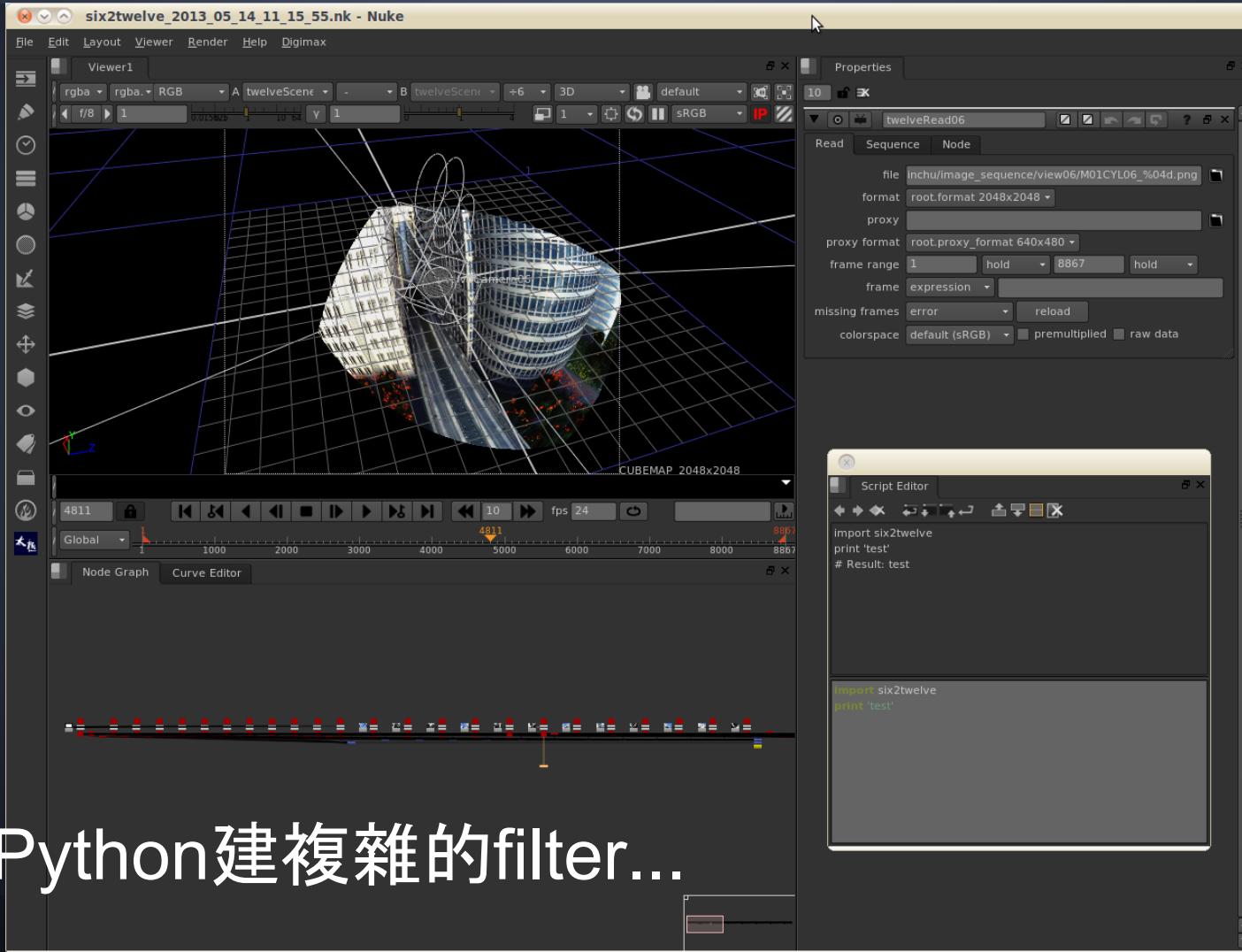
- Maya - MEL & Python
- Nuke - Python
- Houdini - HScript & Python
- Blender - Python



沒C++,不會用Python嗎!?



沒C++,不會用Python嗎!?



用Python建複雜的filter...

沒C++,不會用Python嗎!?



Python在動畫業界就像馬蓋先...

沒C++,不會用Python嗎!?



...的瑞士刀一樣萬用

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!?

專案管理軟體用Python寫

Dracula 2.9.2 [Movie]

File Settings Programs Stereo Help

Task 1 Asset 1 Scene 1 Movie 1 Movie Maker 1

Project ntv01

Sequence

State	Shot	Shot St	Video File
P	Inventory	sc0010	comp ntv01_sq030_sc0010_comp_v005.avi
P	InProgress	sc0020	comp ntv01_sq030_sc0020_comp_0001.mov
👍	Approved	sc0020	comp ntv01_sq030_sc0020_comp_0001.mov
P	InProgress	sc0025	comp ntv01_sq030_sc0025_comp_0001.mov
👍	Approved	sc0025	comp ntv01_sq030_sc0025_comp_0001.mov
P	InProgress	sc0030	comp ntv01_sq030_sc0030_comp_0001.mov
P	InProgress	sc0040	comp ntv01_sq030_sc0040_comp_v001.avi
P	InProgress	sc0050	comp ntv01_sq030_sc0050_comp_v001.avi
P	InProgress	sc0060	comp ntv01_sq030_sc0060_comp_v001.avi
P	InProgress	sc0070	comp ntv01_sq030_sc0070_comp_v002.avi
P	InProgress	sc0080	comp ntv01_sq030_sc0080_comp_v002.avi
P	InProgress	sc0090	comp ntv01_sq030_sc0090_comp_v006.avi
P	Inventory	sc0100	comp ntv01_sq030_sc0100_comp_v002.avi
P	Inventory	sc0110	comp ntv01_sq030_sc0110_comp_0006.avi
P	Inventory	sc0120	comp ntv01_sq030_sc0120_comp_v012.avi
P	Inventory	sc0130	comp ntv01_sq030_sc0130_comp_v003.avi
P	Inventory	sc0140	comp ntv01_sq030_sc0140_comp_v005.avi
P	Inventory	sc0150	comp ntv01_sq030_sc0150_comp_v001.avi
P	Inventory	sc0160	comp ntv01_sq030_sc0160_comp_v003.avi
P	Inventory	sc0170	comp ntv01_sq030_sc0170_comp_v002.avi
P	Inventory	sc0180	comp ntv01_sq030_sc0180_comp_v002.avi

Shot

Stage

Play 3-Play Merge/Save Publish Post Remark

Info

23 movies

沒C++,不會用Python嗎!?

公司內劇院轉檔用Python寫



沒C++,不會用Python嗎!?

球形劇院轉檔也用Python寫

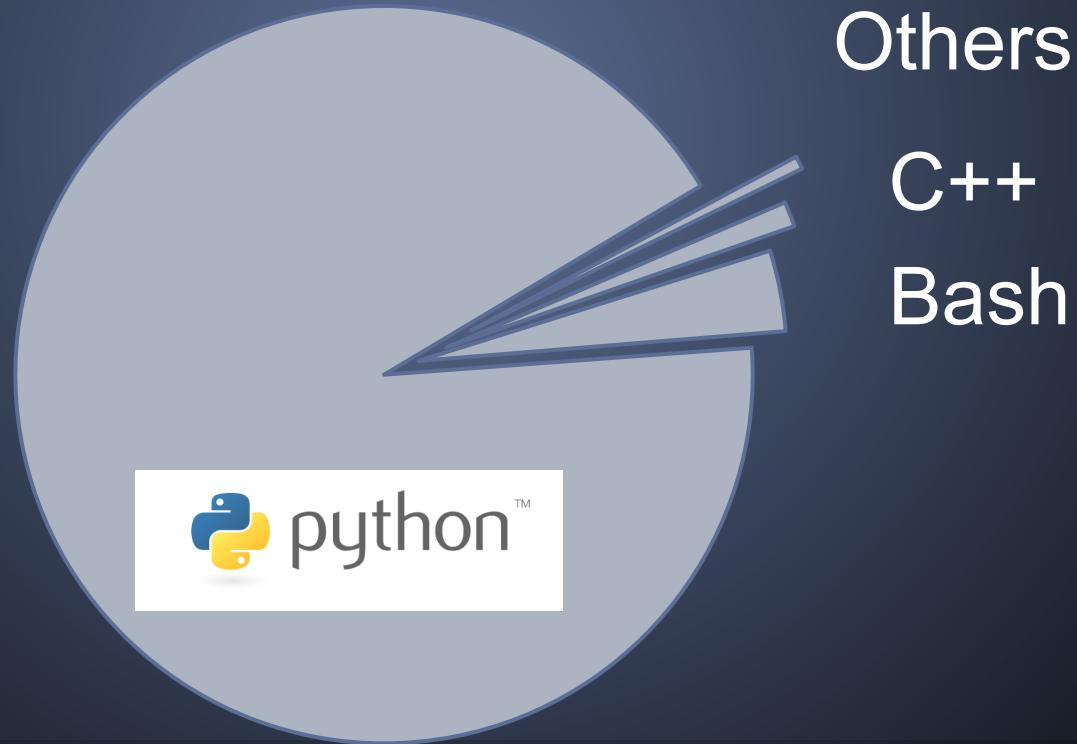
TAIWAN
世博台灣館 × 環球購物中心
PAVILION



攝影 莊承璋

沒C++,不會用Python嗎!?

各項程式語言在digimax中的使用率



娘人者人恆娘之

婊人者人恆婊之

2012

deadline壓力如世界末日...



婊人者人恆婊之

9/9	
0800	Auton started
1000	stopped - auton ✓
1340 1032 MP-MC	$\begin{cases} 1.2700 & 9.037847025 \\ 1.130476415 & 9.037846995 \end{cases}$ correct 1.130476415 4.615925059(-)
033 PRO 2	2.130476415 correct 2.130476415
	Relays 6-2 in 033 failed special speed test in relay 11.00 test.
1100	Started Cosine Tape (Sine check)
1525	Started Multi Adder Test.
1545	 Relay #70 Panel F (Moth) in relay.
1600	Auton start.
1700	closed down.
	First actual case of bug being found.

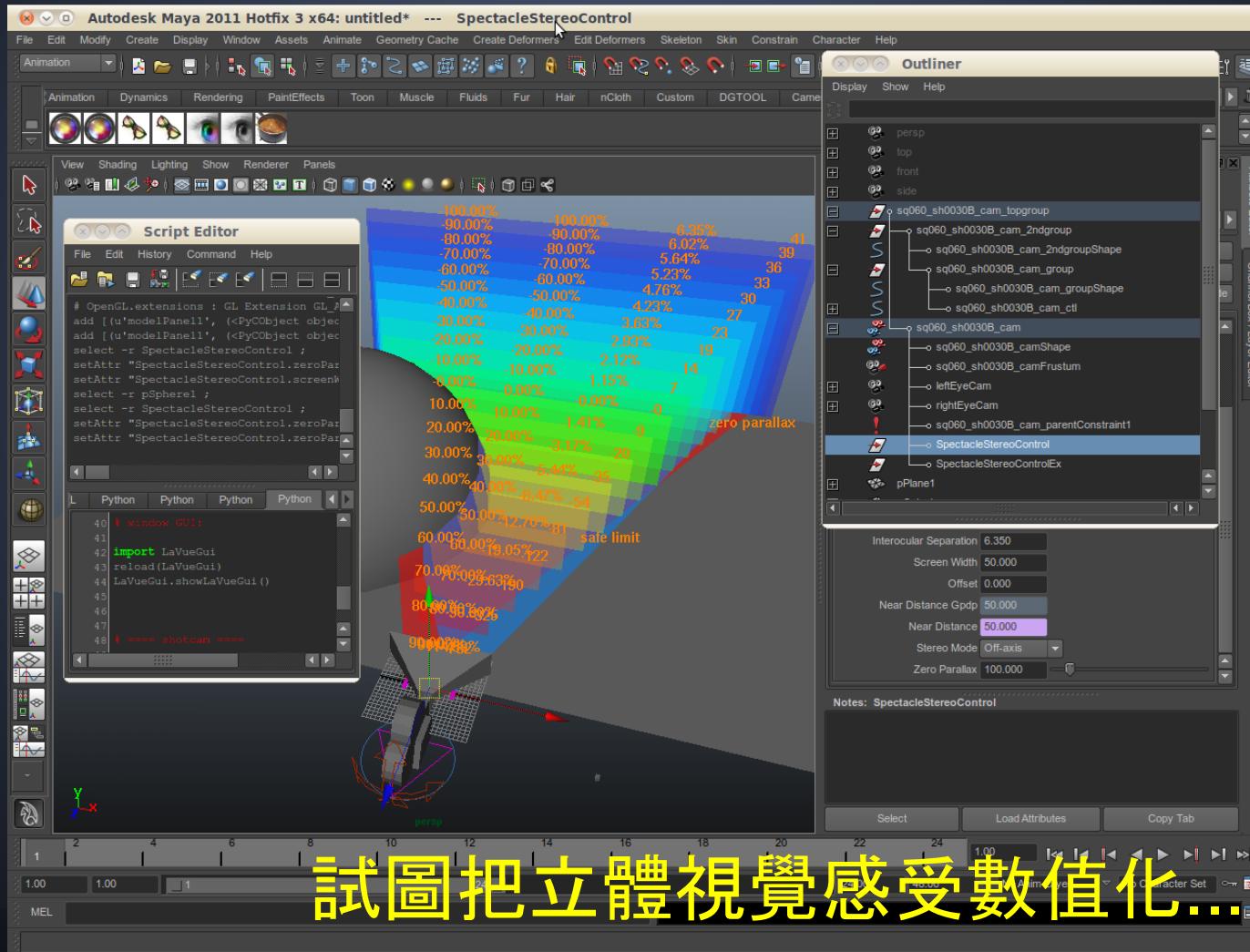
造就bug無所不在

婊人者人恆婊之



工程師:怎麼會這樣!!!

婊人者人恆婊之



婊人者人恆婊之

"沒時間了,用直覺寫code!"

婊人者人恆婊之

```
>>> posX = mayaNode.positionX.get(),
```

```
...
```

```
...
```

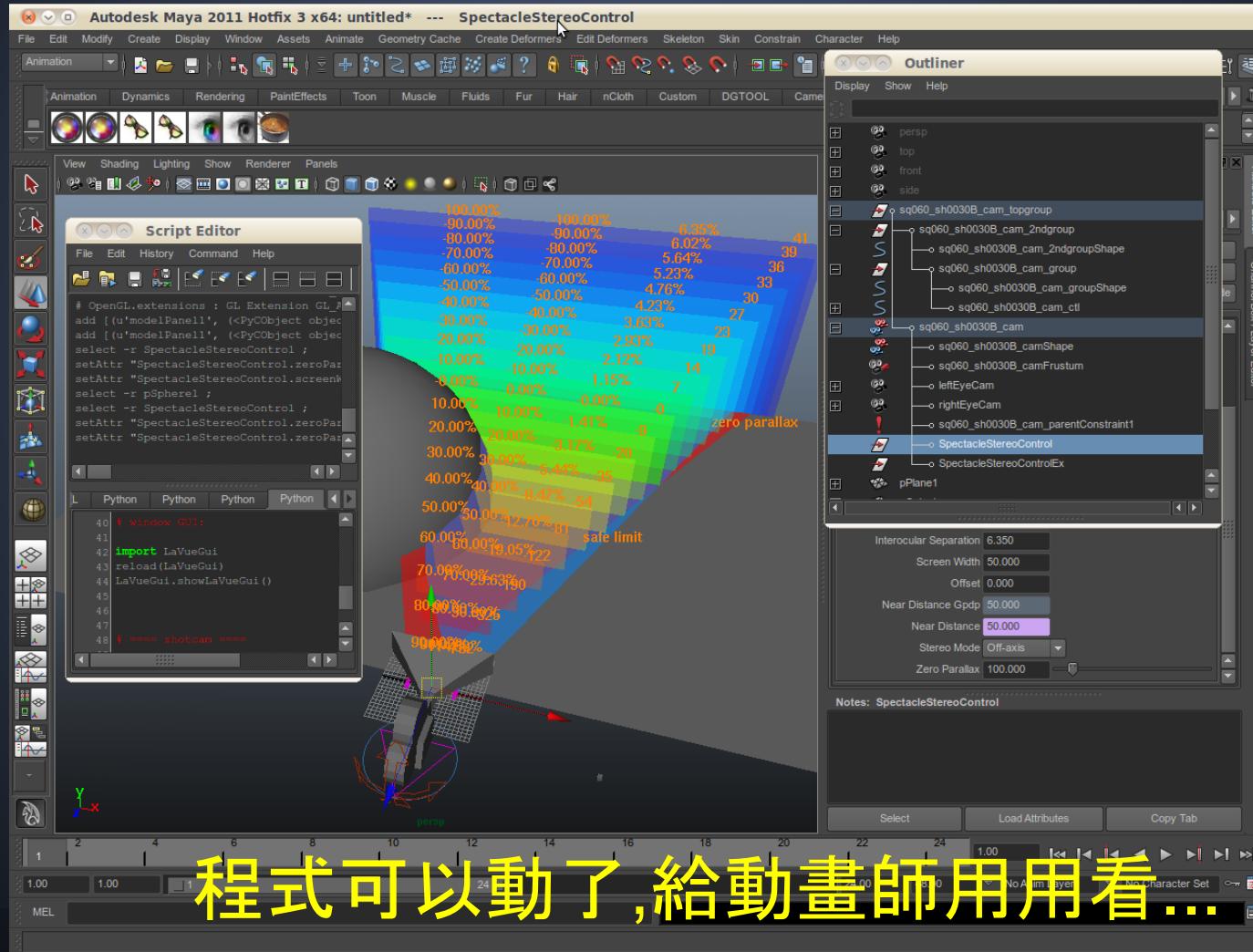
```
>>> print posX-10.0
```

```
TypeError: can only concatenate tuple (not "float") to tuple
```

嬪人者人恆嬪之

“ ”
，

婊人者人恆婊之



婊人者人恆婊之

"好麻煩喔，每次更新工具都要重開Maya，重開Maya很花時間耶!"

"加個reload(module)，這樣就不用重開Maya了!"

婊人者人恆婊之

I am so smart!



嬪人者人恆嬪之

不久之後...

"為什麼想按按鈕重開輔助工具,就不能用了呢"

婊人者人恆婊之

```
>>> import mymodule
```

```
>>> myinstance = mymodule.MyClass()
```

```
>>> reload(mymodule)
```

```
>>> isinstance(myinstance, mymodule.MyClass)
```

```
False
```

婊人者人恆婊之

[無碼] '感人' [真相館].mov

"這個檔案怎麼不能用工具轉啊?"

婊人者人恆婊之

```
>>> os.system('ffmpeg -i %s %s' % (input, output))
```

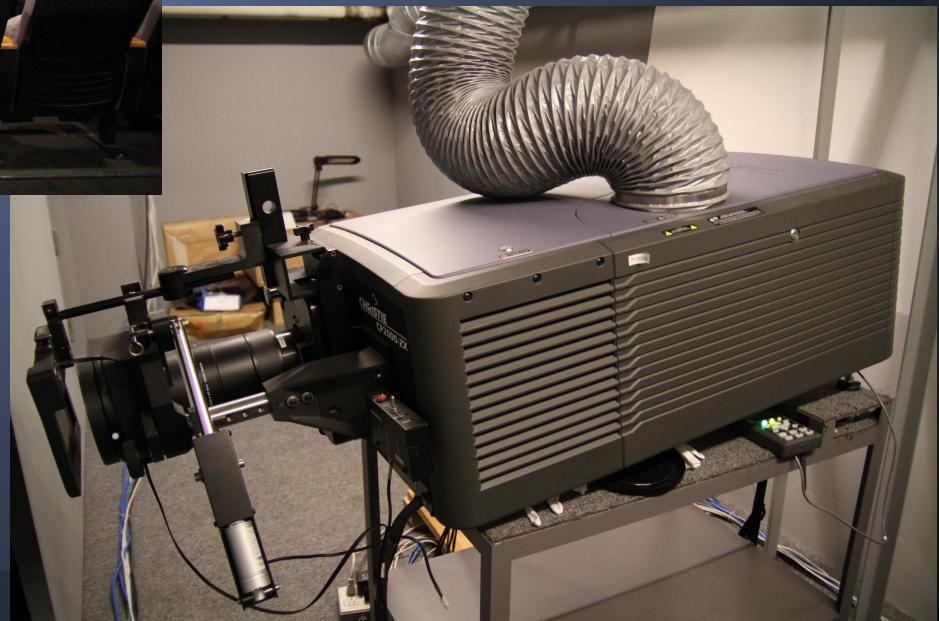
```
-> ffmpeg -i [無碼] '感人' [真相館].mov result.mp4  
-> in: [無碼] out: 感人 [真相館].mov result.mp4
```

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 '[無碼]' \"感人\" [真相館].mov' 'result.mp4'
-> in: [無碼] '感人' [真相館].mov out: result.mp4
```

婊人者人恆婊之

用自製工具轉成劇院用影片格式...



嬪人者人恆嬪之

"你來看看，為什麼圖片會一直多出來啊？"

婊人者人恆婊之

```
>>> def fun(array=[]):  
>>>     array.append('new.png')  
>>>     print array
```

```
>>> fun()  
['new.jpg']  
>>> fun()  
['new.jpg', 'new.jpg']
```

婊人者人恆婊之

A workstation



用一台電腦算圖,直到世界末日也算不完...

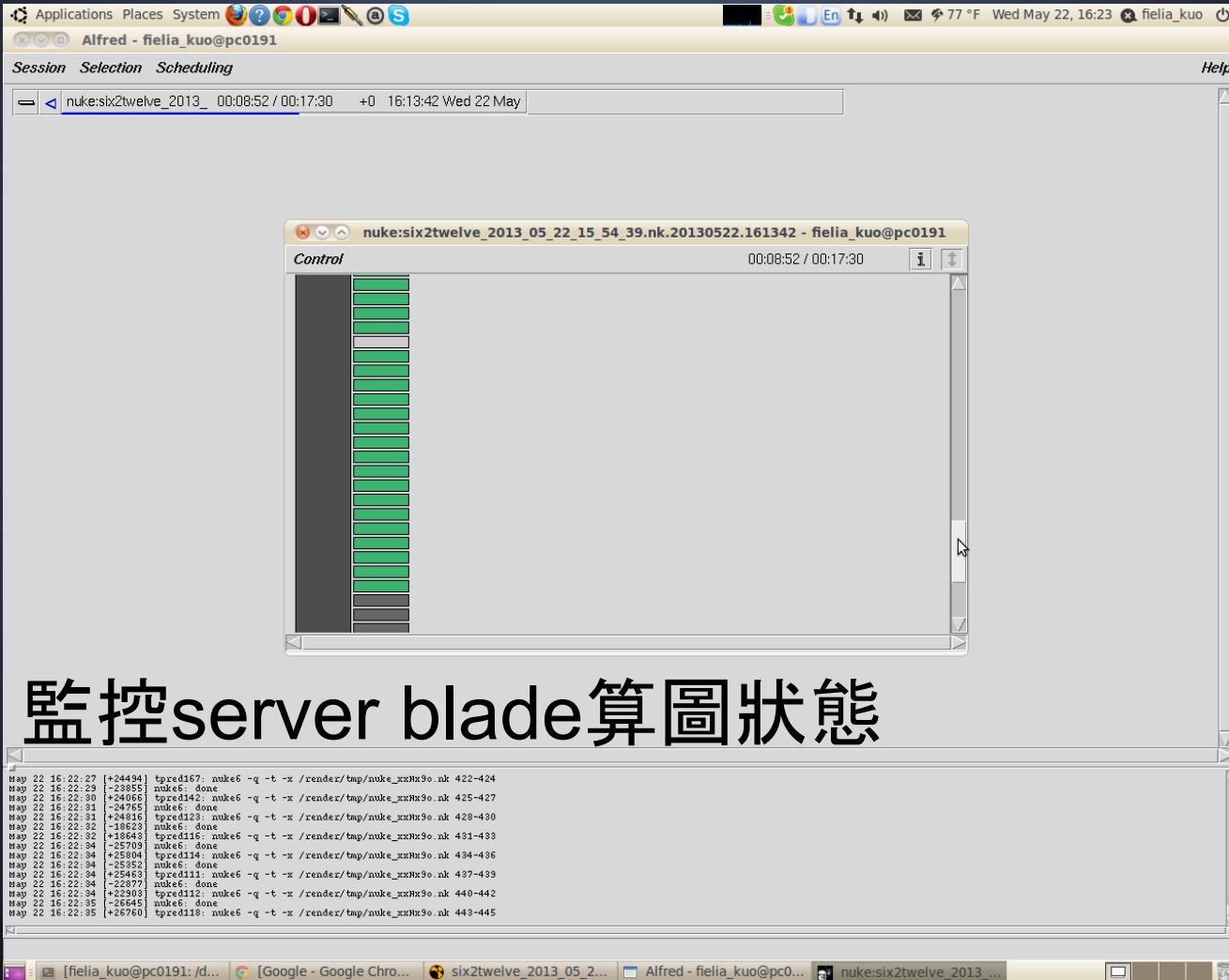
婊人者人恆婊之

Render Farm



用server blade就能加速算圖了!!!

婊人者人恆婊之



嬪人者人恆嬪之

"奇怪耶!? 算好的圖怎麼會掉格?"

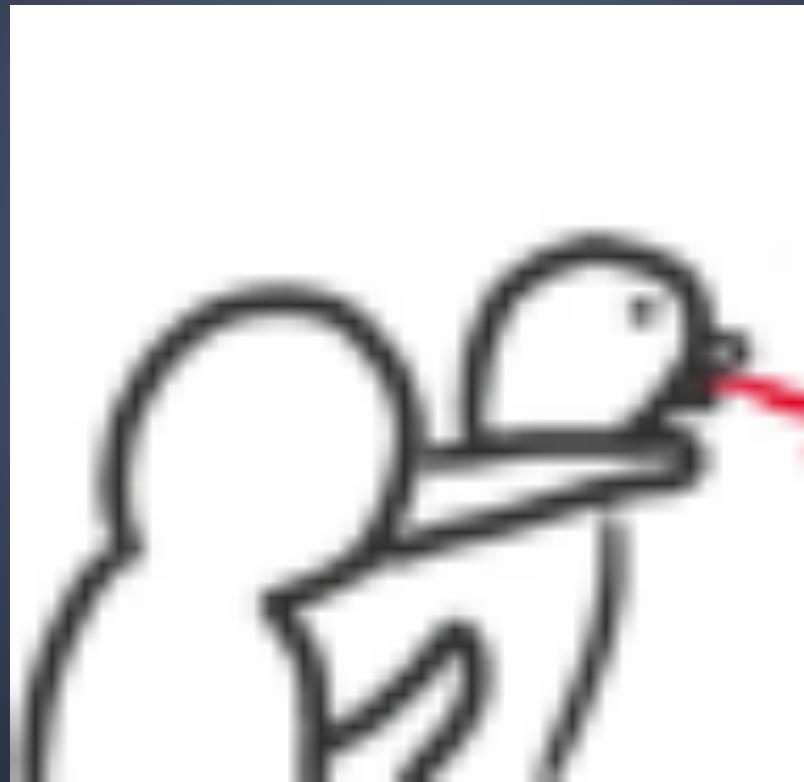
婊人者人恆婊之

```
>>> def main(argv=sys.argv[:])  
...  
>>>     return 0 # don't return or always return 0  
  
>>> sys.exit(main())  
# とりあえず sys.exit(0), always run this
```

同事寫的code...

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搞毛啊!!!



婊人者人恆婊之

- Execute parallel rendering on render farm,
sys.exit() is the keypoint
- render farm dispatcher see return code to
check if a program is failed
- We should forward return code of program
launched by wrapper

婊人者人恆婊之

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

Solution: not exist

Reason:

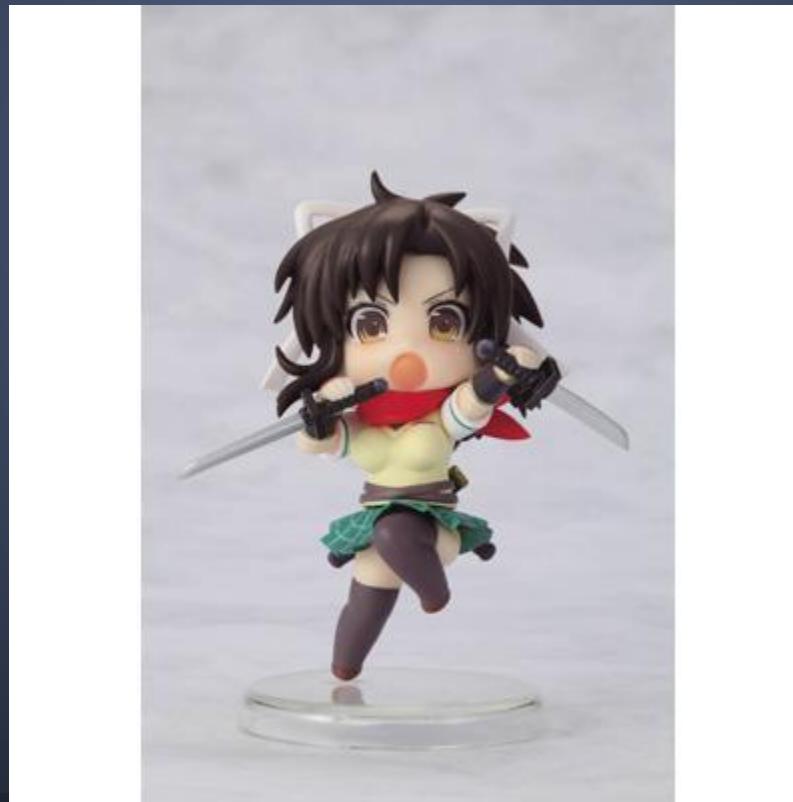
婊人者人恆婊之



沒有正派,沒有反派,只有All Py

沒有正派,沒有反派,只有All Py

不是歐派!別聽錯了!



沒有正派,沒有反派,只有All Py

We are not Python geek.

What we have, what we use.

Fast development is the top rule.

Questions?

おわり!

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