

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)
- 潜逃出境(?) (2009-2010)
- RD, Digimax Inc. (2010-current)

Spec

- 略懂Python
- 略懂OpenGL
- Computer Graphics
- Like to try special programming language.
- Cannot live without Changjie IM.
- AviSynth script geek.

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. 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!



你不工作試試看!!!

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

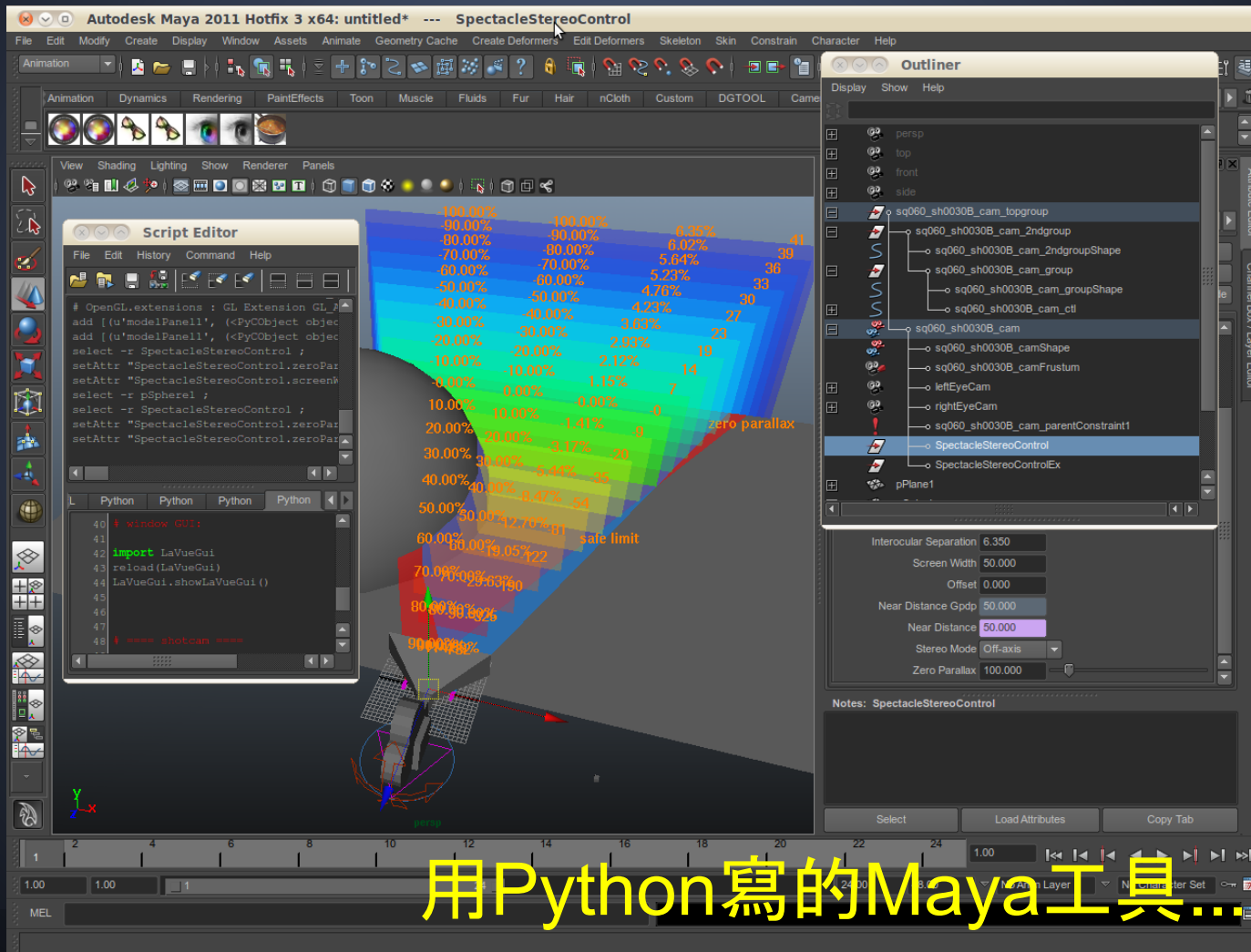


沒C++,不會用Python嗎!?

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

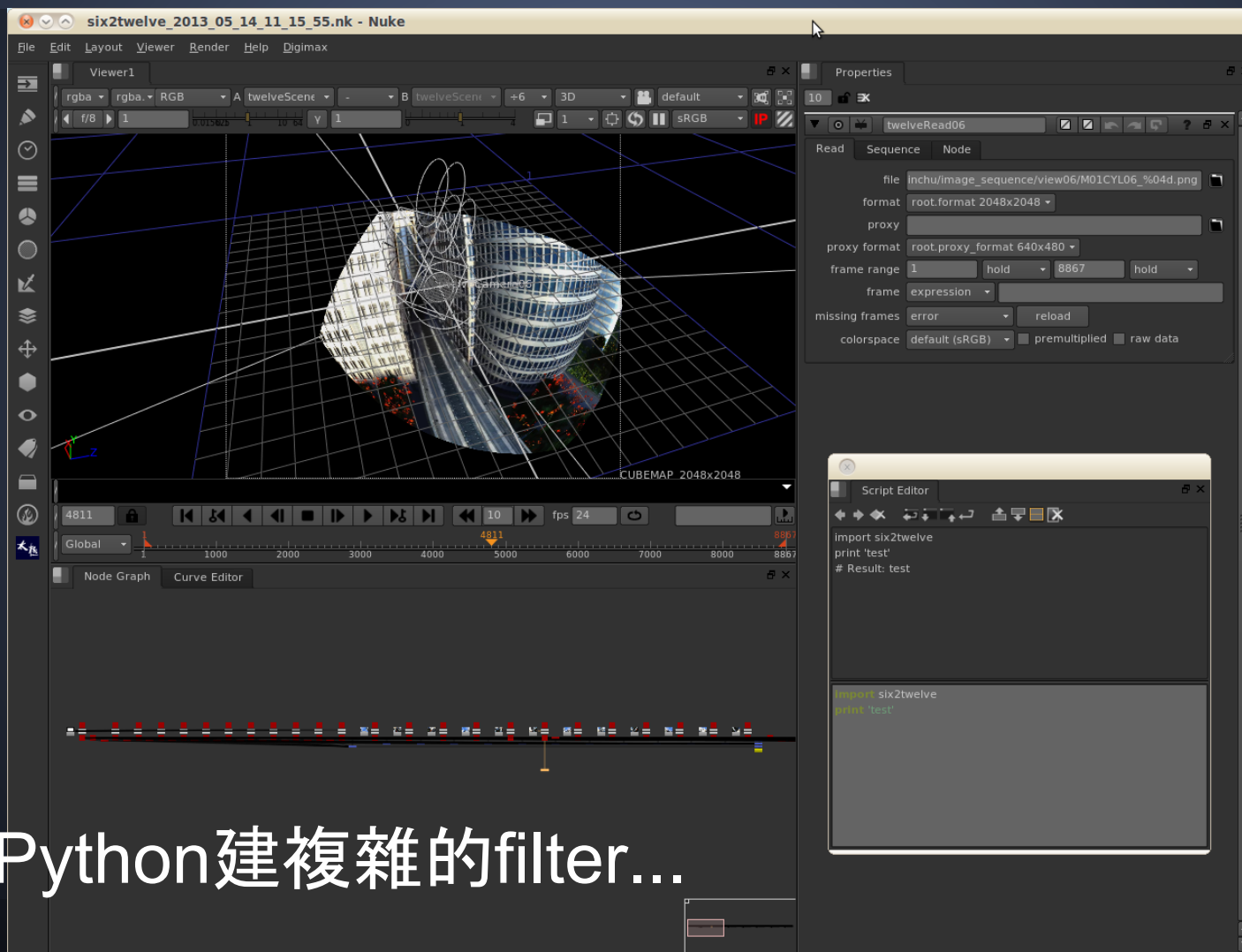


沒C++,不會用Python嗎!?



用Python寫的Maya工具...

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

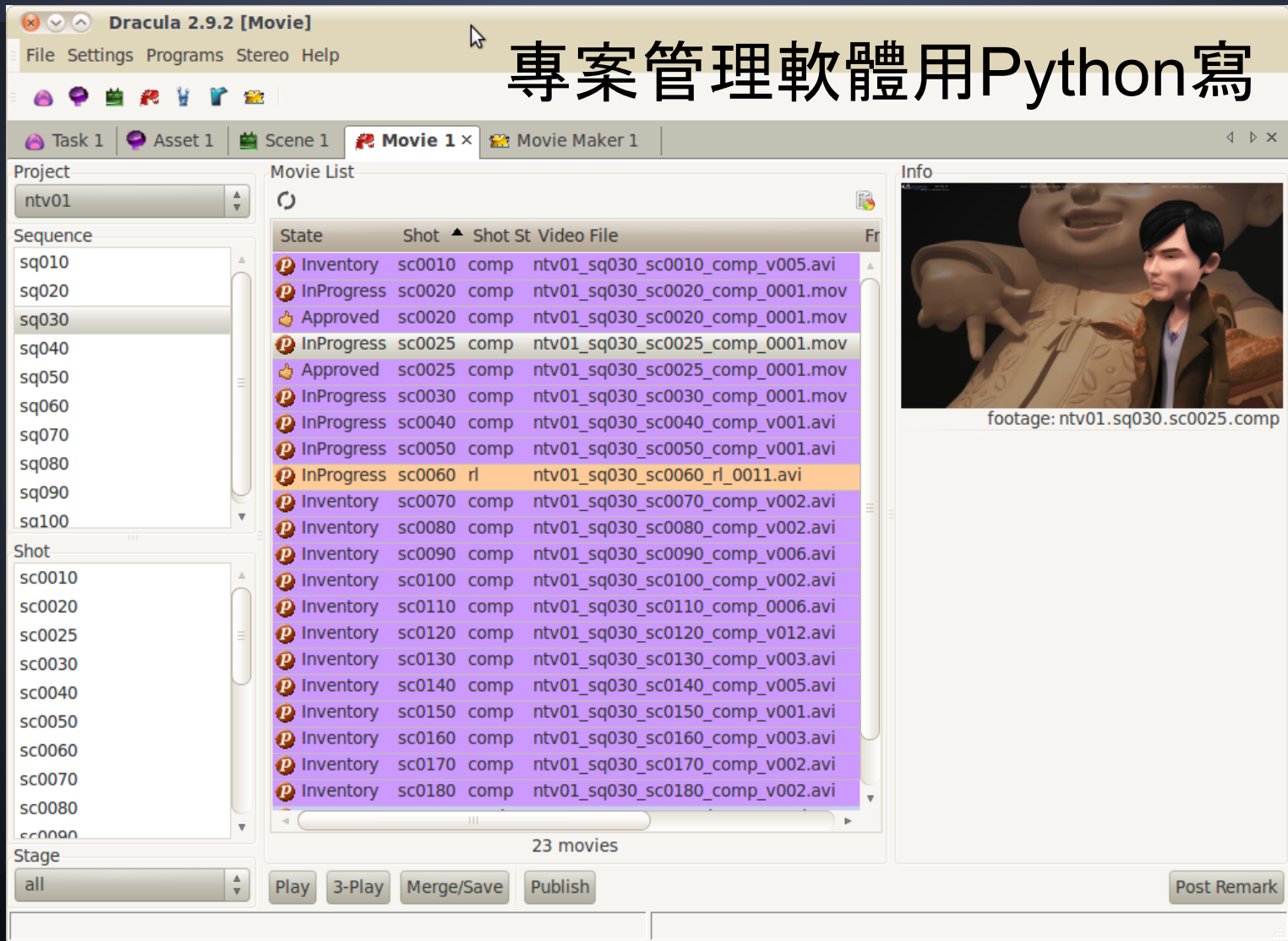
- easy to be integrated with Maya, Nuke,...
- fast prototyping
- easy to read

Bash

- control command line tool
- wrapper

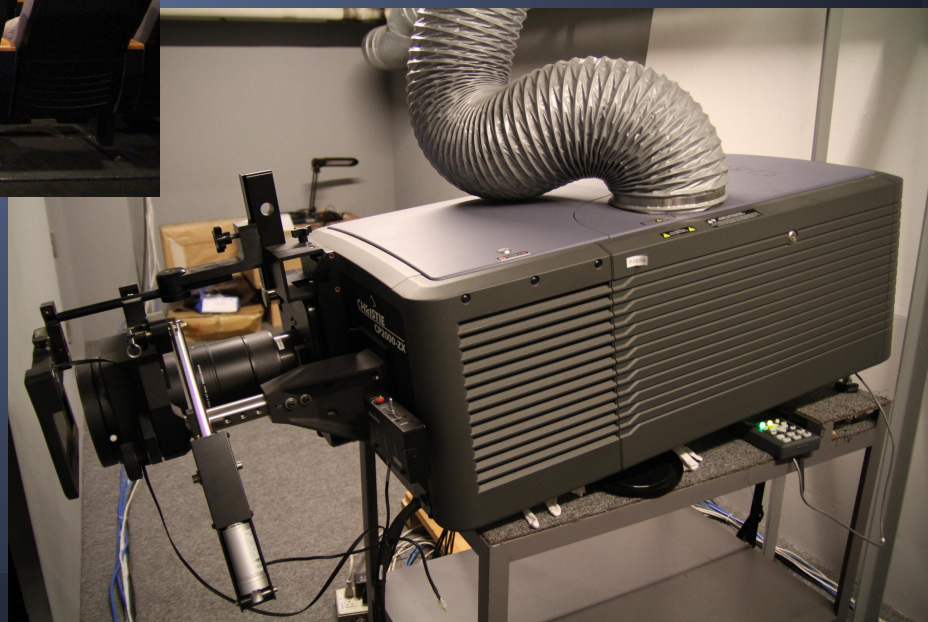
沒C++,不會用Python嗎!?

專案管理軟體用Python寫



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

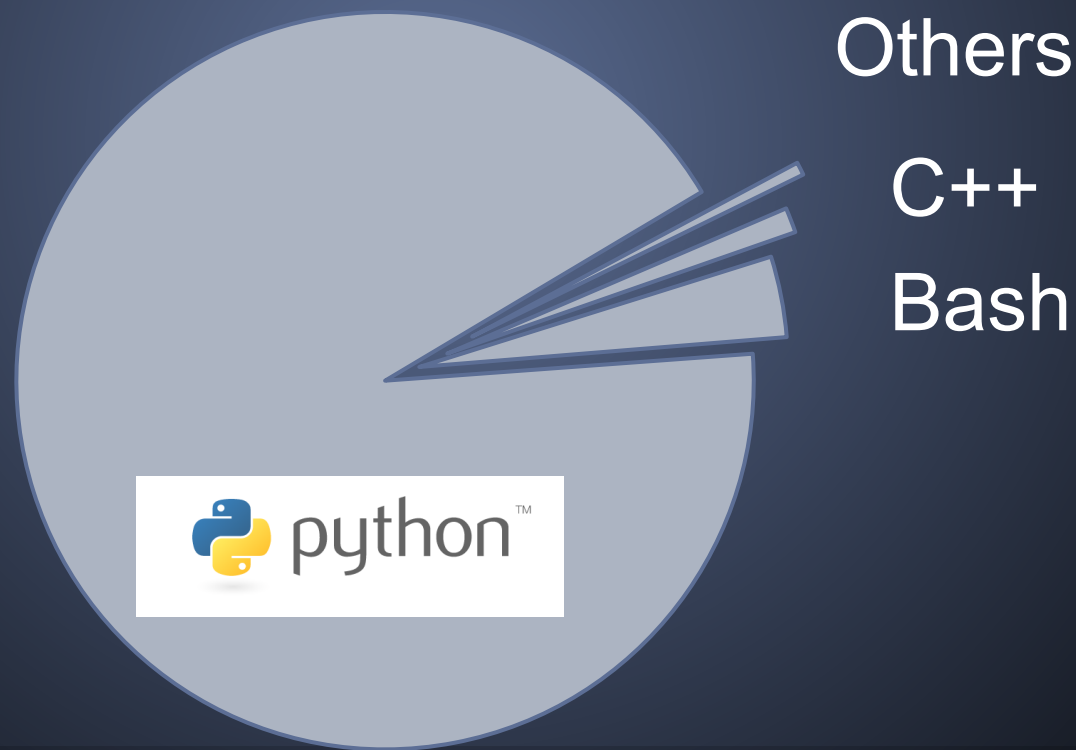
TAIWAN
世博台灣館 × 環球購物中心
PAVILION



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



婁人者人恆婁之

之婊人恆人者

2012

deadline壓力如世界末日...



婁人者人恆婁之

9/9


0800 Antan started
1000 stopped - antan ✓

1300 (032) MP-MC $\left\{ \begin{array}{l} 1.2700 \quad 9.037847025 \\ 2.130476415 \quad 9.037846995 \text{ correct} \\ 2.130476415 \quad 4.615925059(-2) \end{array} \right.$

(033) PRO 2 2.130476415
correct 2.130476415

Relays 6-2 in 033 failed special speed test
in relay 11,000 test.

1100 Started Cosine Tape (Sine check)
1525 Started Multy Adder Test.

1545  Relay #70 Panel F
(moth) in relay.

1630 Antan started.
1700 closed down.

First actual case of bug being found.

Relay 2145
Relay 2275

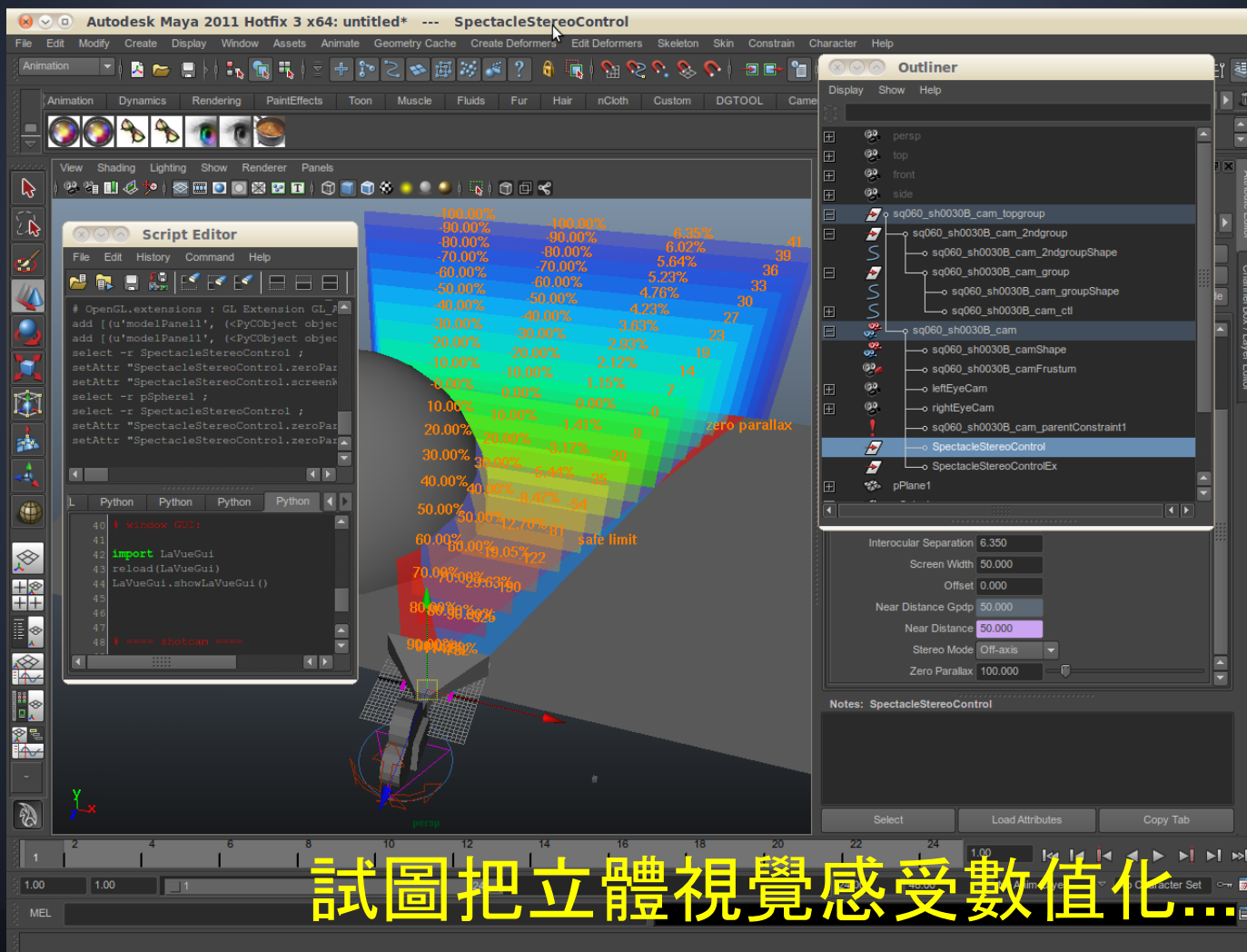
造就bug無所不在

婁人者人恆婁之



工程師:怎麼會這樣!!!

婁人者人恆婁之



婁人者人恆婁之

"沒時間了,用直覺寫code!"

婊人者人恆婊之

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

```
...
```

```
...
```

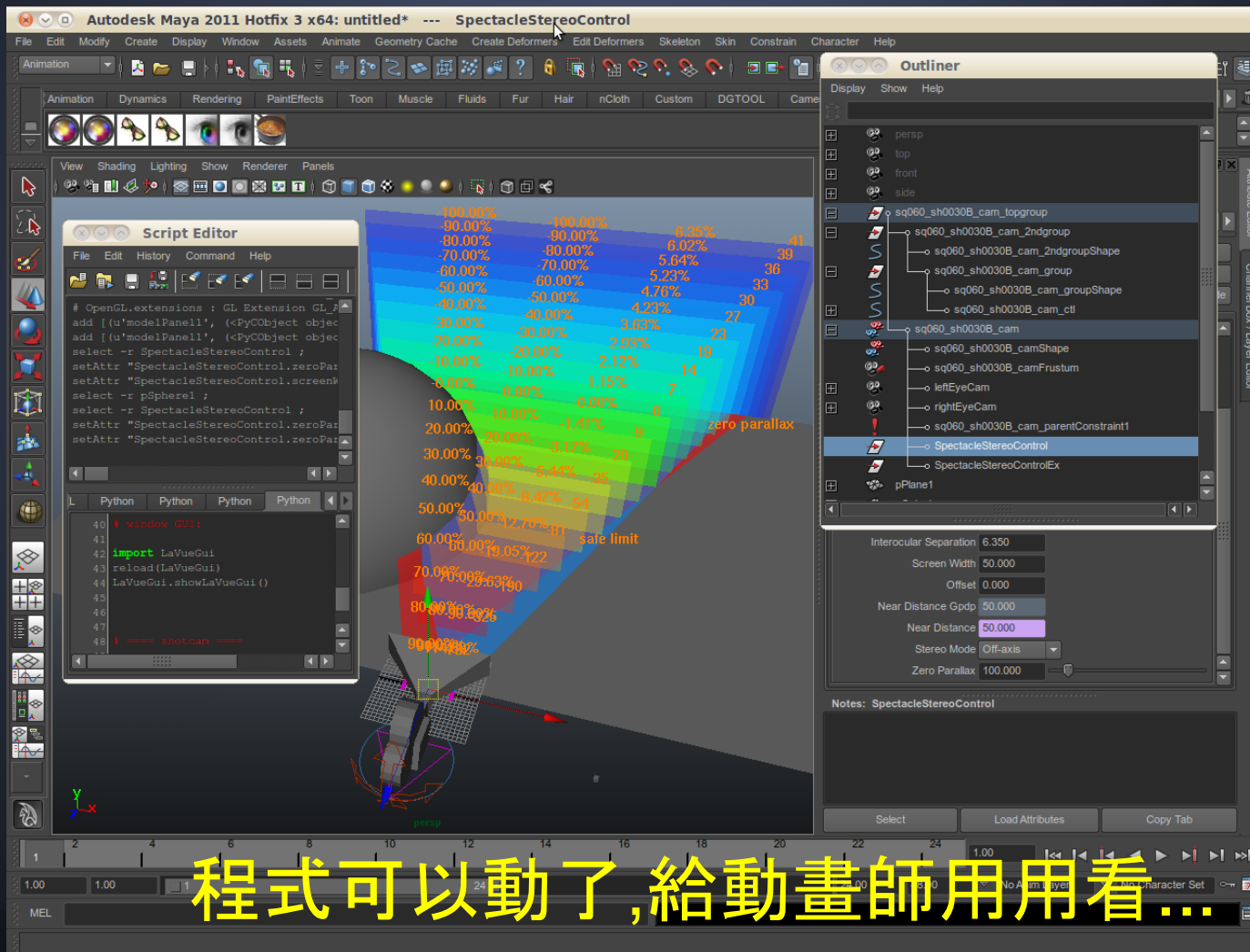
```
>>> print posX-10.0
```

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

婁人者人恆婁之

“ ”
，

婊人者人恆婊之



程式可以動了,給動畫師用用看...

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!"

婁人者人恆婁之

I am so smart!



婊人者人恆婊之

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("'", "'\\'")+ "'"
```



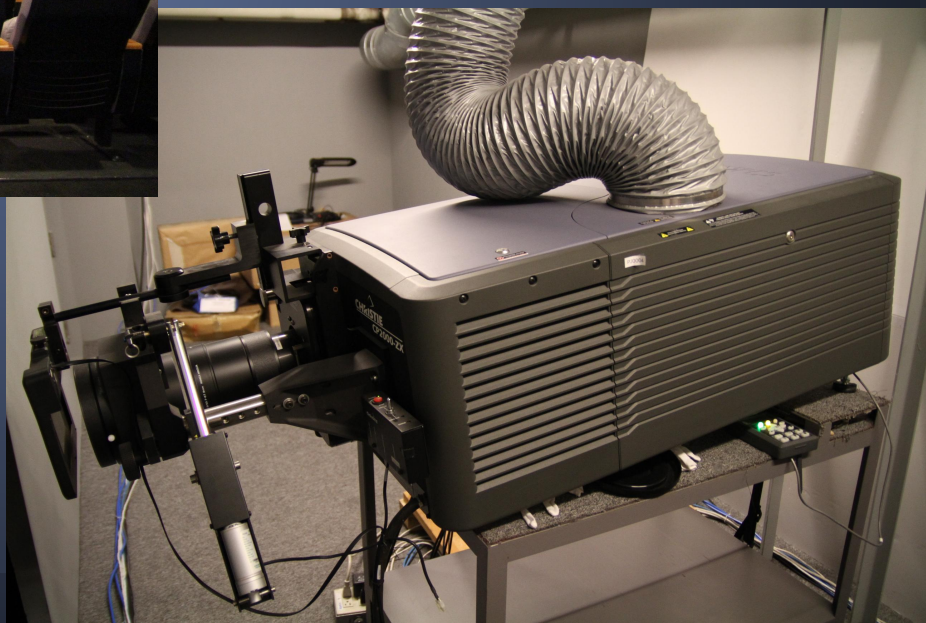
```
>>> args = ''.join(map(escapeShellArg, argv))  
>>> os.system('ffmpeg -i '+args)
```



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

婁人者人恆婁之

用自製工具轉成劇院用影片格式...



婊人者人恆婊之

"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']
```

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A workstation



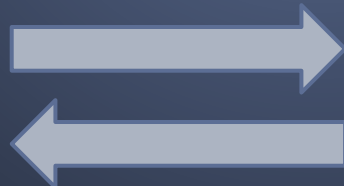
=



用一台電腦算圖,直到世界末日也算不完...

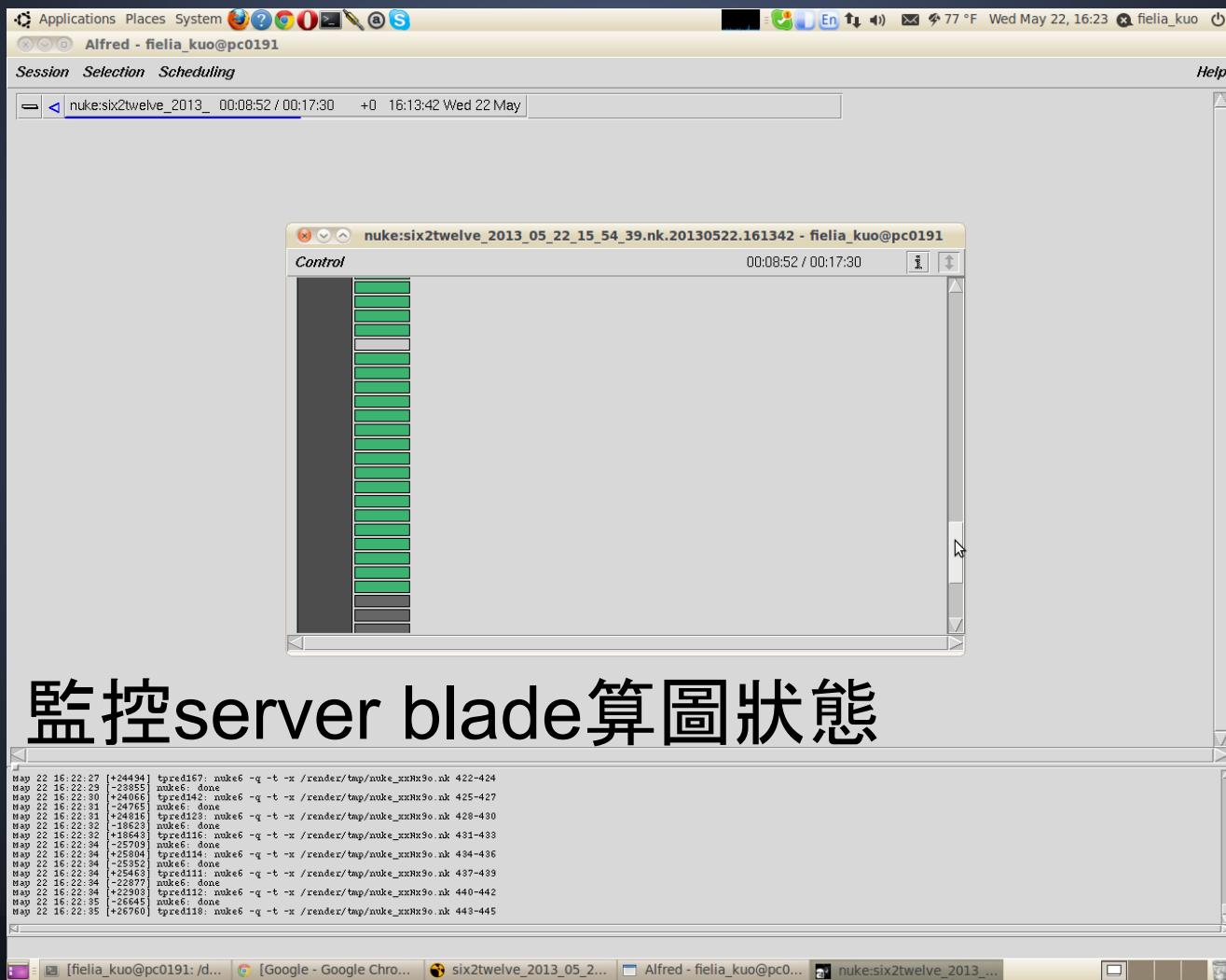
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Render Farm



用server blade就能加速算圖了!!!

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The screenshot displays a server monitoring application window titled "Session Selection Scheduling". The main area shows a "Control" window with a blade rack status visualization. The rack is represented by a vertical column of green bars, indicating the status of various server blades. Below the visualization, a terminal window displays a log of system events, including timestamps and process IDs, such as "tpred167: nuke6 -q -t -x /render/tmp/nuke_xxxHx3o.nk 422-424".

Applications Places System Alfred - felia_kuo@pc0191

Session Selection Scheduling Help

nuke:six2twelve_2013_00:08:52 / 00:17:30 +0 16:13:42 Wed 22 May

nuke:six2twelve_2013_05_22_15_54_39.nk.20130522.161342 - felia_kuo@pc0191

Control 00:08:52 / 00:17:30

May 22 16:22:27 [+24494] tpred167: nuke6 -q -t -x /render/tmp/nuke_xxxHx3o.nk 422-424
May 22 16:22:29 [-23855] nuke6: done
May 22 16:22:30 [+24065] tpred142: nuke6 -q -t -x /render/tmp/nuke_xxxHx3o.nk 425-427
May 22 16:22:31 [-24765] nuke6: done
May 22 16:22:31 [+24816] tpred123: nuke6 -q -t -x /render/tmp/nuke_xxxHx3o.nk 428-430
May 22 16:22:32 [-19523] nuke6: done
May 22 16:22:32 [+18643] tpred116: nuke6 -q -t -x /render/tmp/nuke_xxxHx3o.nk 431-433
May 22 16:22:34 [-25709] nuke6: done
May 22 16:22:34 [+25804] tpred114: nuke6 -q -t -x /render/tmp/nuke_xxxHx3o.nk 434-436
May 22 16:22:34 [-25352] nuke6: done
May 22 16:22:34 [+25463] tpred111: nuke6 -q -t -x /render/tmp/nuke_xxxHx3o.nk 437-439
May 22 16:22:34 [-22977] nuke6: done
May 22 16:22:34 [+22903] tpred112: nuke6 -q -t -x /render/tmp/nuke_xxxHx3o.nk 440-442
May 22 16:22:35 [-26545] nuke6: done
May 22 16:22:35 [+26760] tpred118: nuke6 -q -t -x /render/tmp/nuke_xxxHx3o.nk 443-445

Monitoring server blade calculation status

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"奇怪耶!?! 算好的圖怎麼會掉格?"

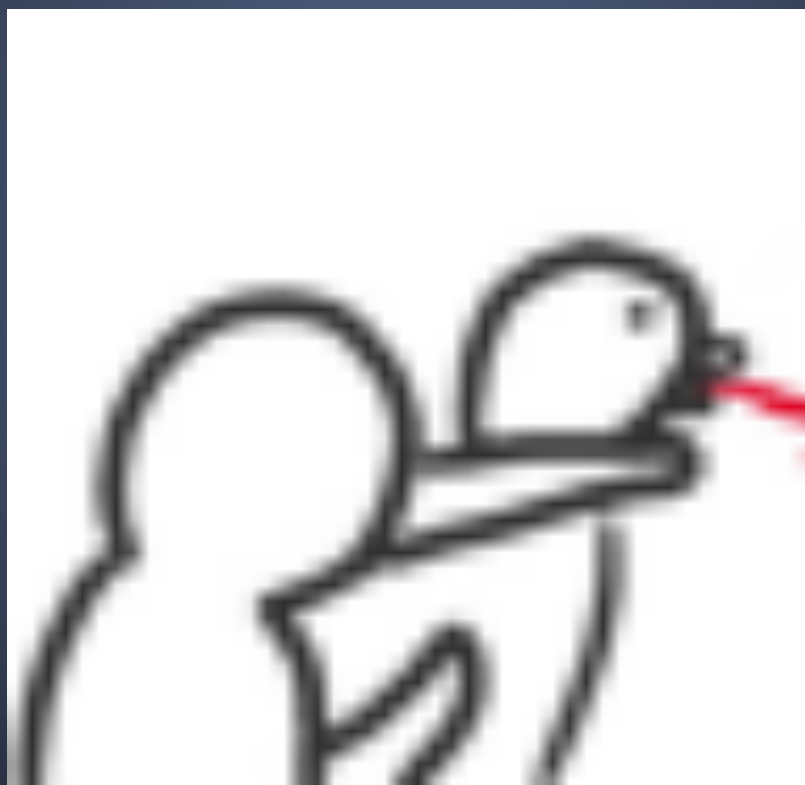
婊人者人恆婊之

```
>>> 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!!!



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- 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

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

Solution: not exist

Reason:

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2012

"deadline壓力如世界末日"



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!

\('3')/

