

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 trying special programming language.
- Changjie input method native user.
- 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. 現在,很想Python
5. 沒有正派,沒有反派,只有All Py

★ 工作就輸了!

不想工作~!!!



figma - GOOD SMILE COMPANY, INC.

★ 工作就輸了!

家畜の安寧...



進撃の巨人

★ 工作就輸了!

Jobs?

Video Game



3D Animation



Mobile App



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!?

Why people speak Parseltongue in animation studio?



Harry Potter film series

✦ 沒C++,不會用Python嗎!?

Because Lord Voldemort force us to speak Parseltongue!



Harry Potter film series

★ 沒C++,不會用Python嗎!?

- 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



★ 沒C++,不會用Python嗎!?

Python is the most common swiss knife.



MacGuyver

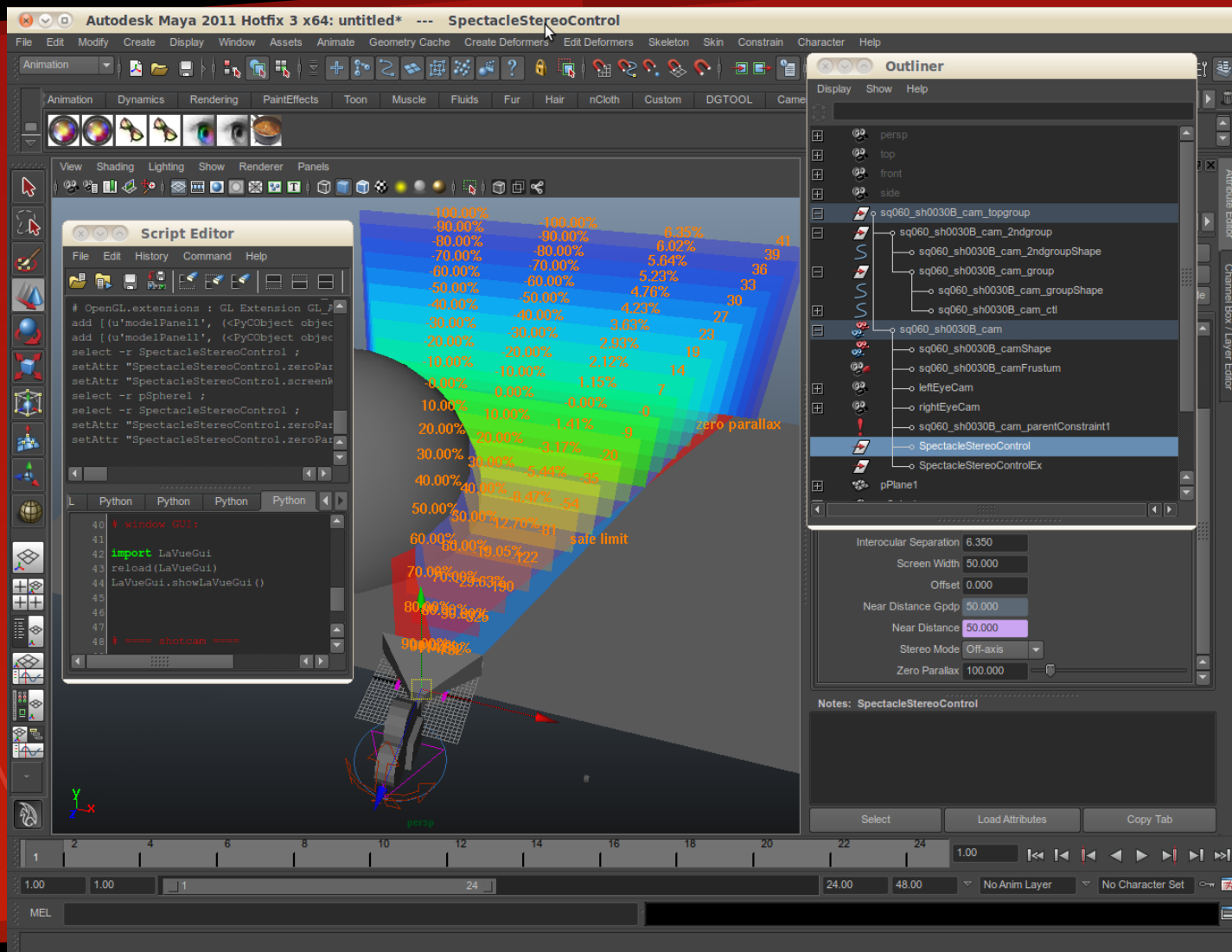
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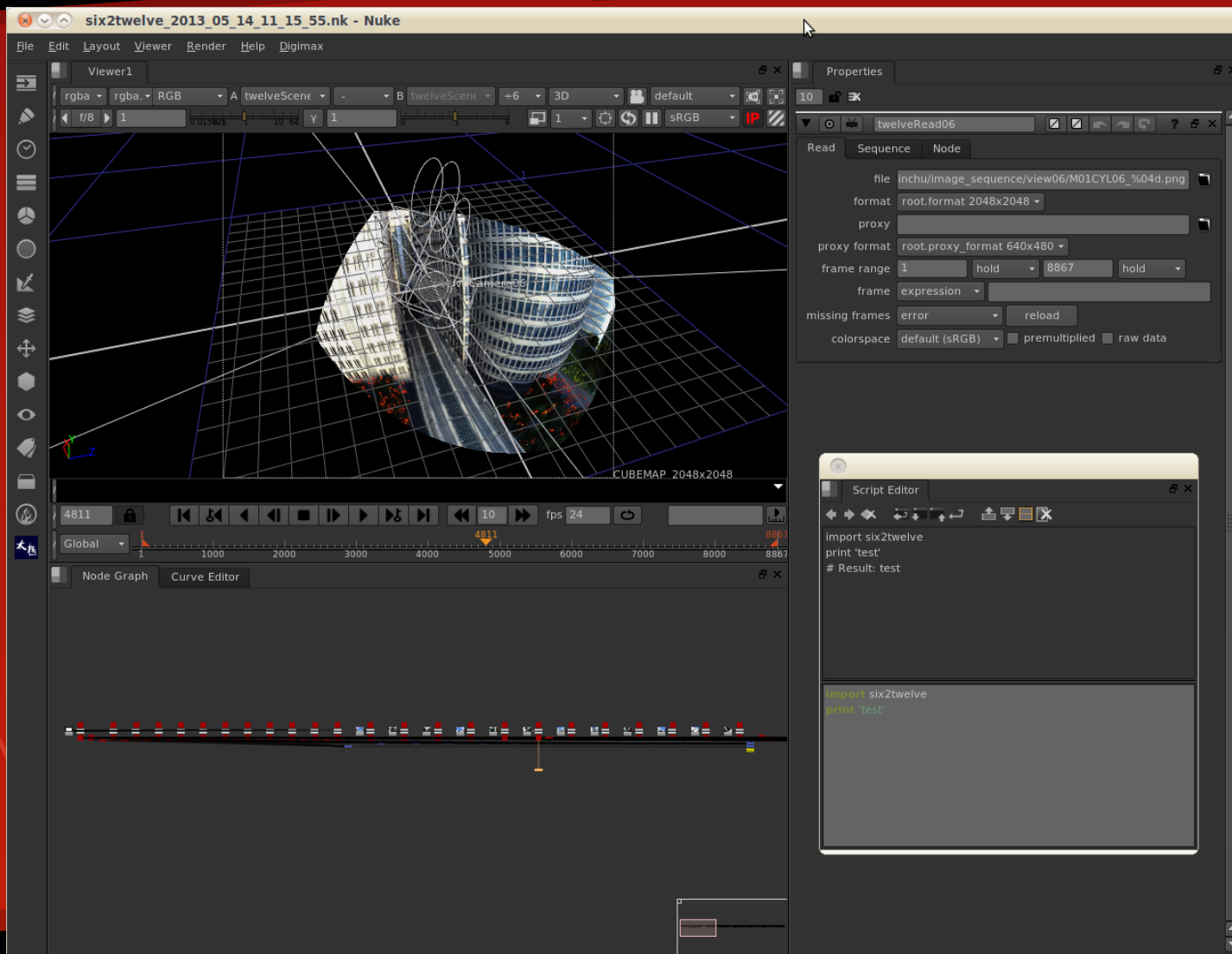


Victorinox Huntsman

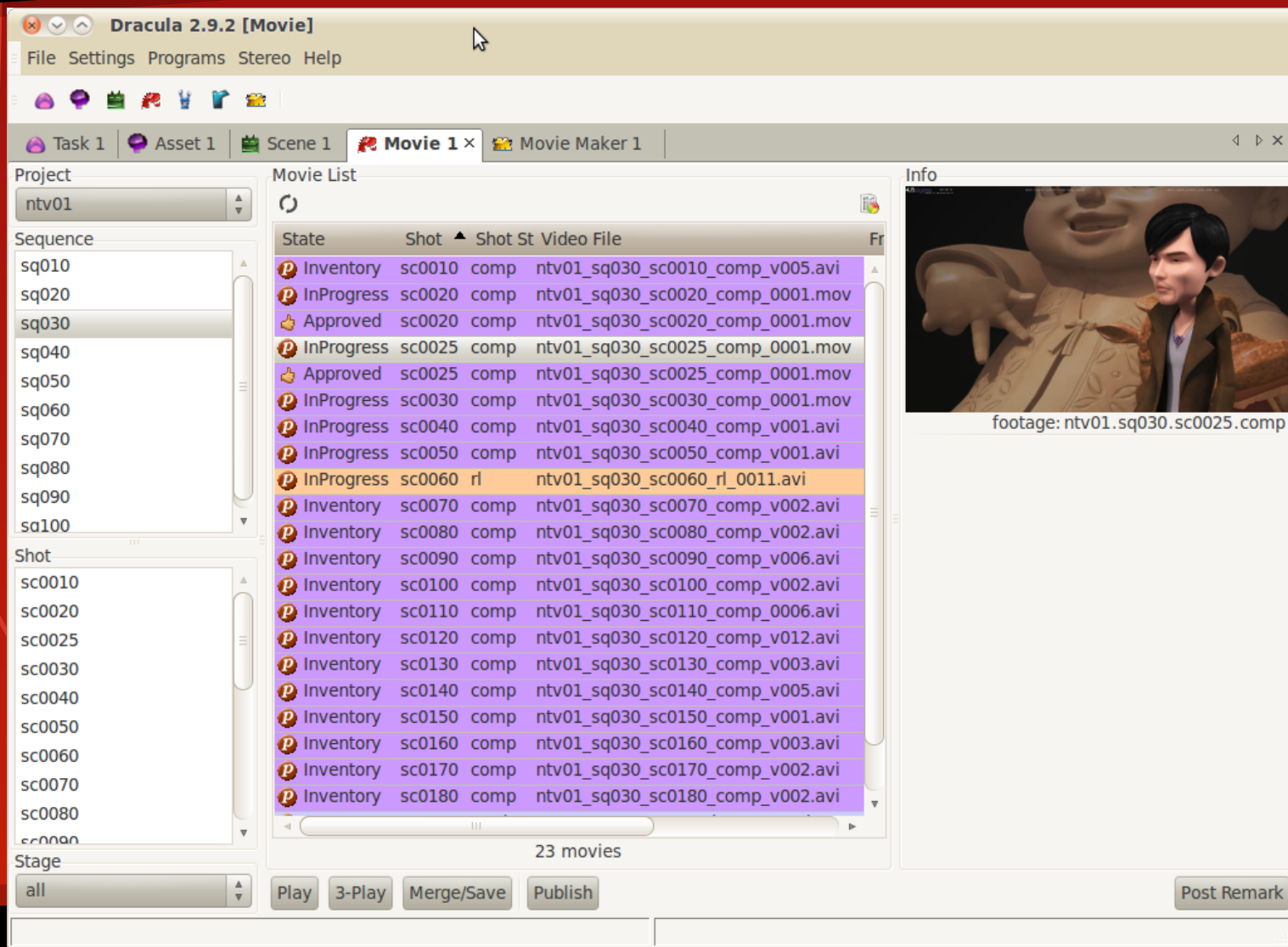
✦ 沒C++,不會用Python嗎!?



✧ 沒C++,不會用Python嗎!?



✧ 沒C++,不會用Python嗎!?



★ 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

✦ 沒C++,不會用Python嗎!?

output to spherical theater:



Taiwan Pavilion

★ 婊人者人恆婊之

eschaton (due date)

- > to producing animation easier
- > script for specific requirement
- > bug everywhere



★ 婁人者人恆婁之

"沒時間了,用直覺寫code!"

★ 婁人者人恆婁之

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

```
...
```

```
...
```

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

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

★ 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

不久之後...

"為什麼重新啟動工具就不能用了呢"

★ 婁人者人恆婁之

```
>>> import mymodule
```

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

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

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

```
False
```

★ 婊人者人恆婊之

[無碼] '過激' [范肯迪].mov

"這個檔案怎麼不能用工具轉啊?"

★ 婁人者人恆婁之

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

```
-> ffmpeg -i [無碼] '過激' [范肯迪].mov result.mp4
```

```
-> in: [無碼] out: 過激 [范肯迪].mov result.mp4
```

★ 婁人者人恆婁之

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

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

-> ffmpeg -i '[無碼] \"過激\" [范肯迪].mov' 'result.mp4'
-> in: [無碼] '過激' [范肯迪].mov out: result.mp4
```

★ 婊人者人恆婊之

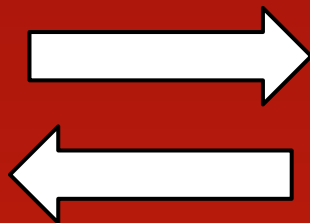
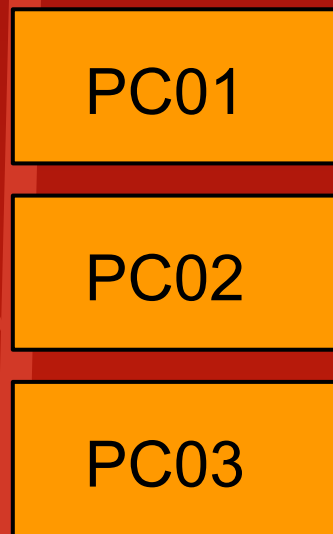
"你來看看,為什麼圖片會一直多出來啊?"

★ 婊人者人恆婊之

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

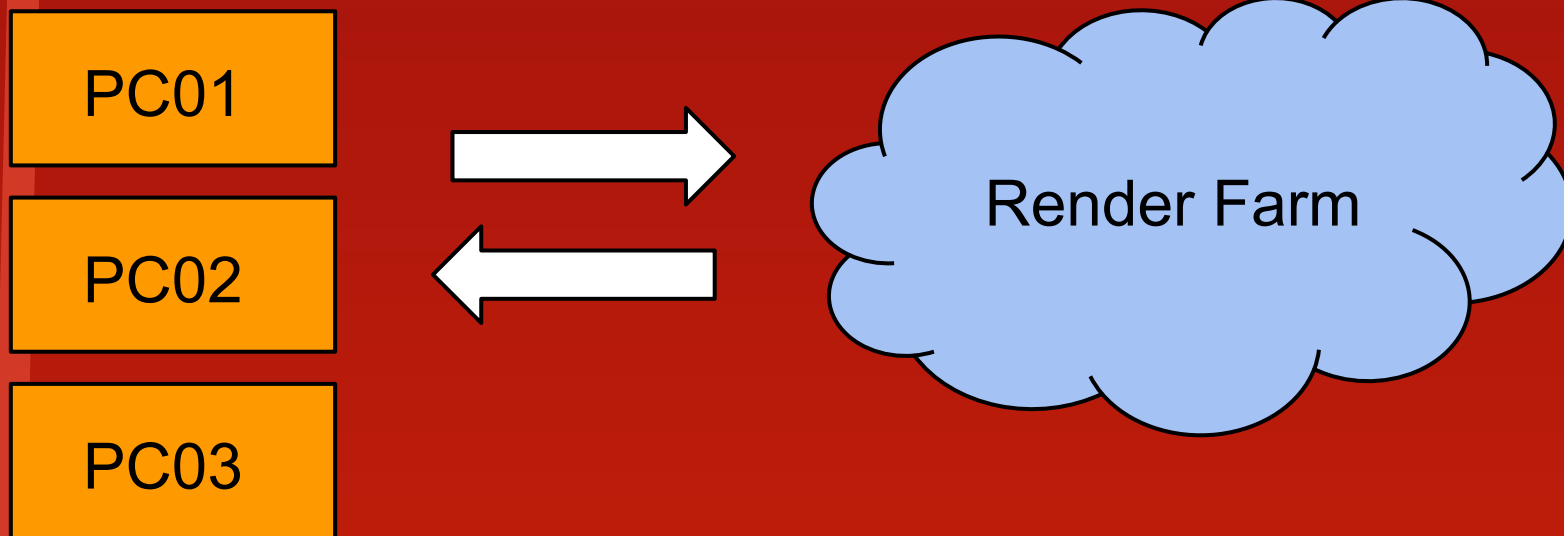
★ 婊人者人恆婊之

Render Farm

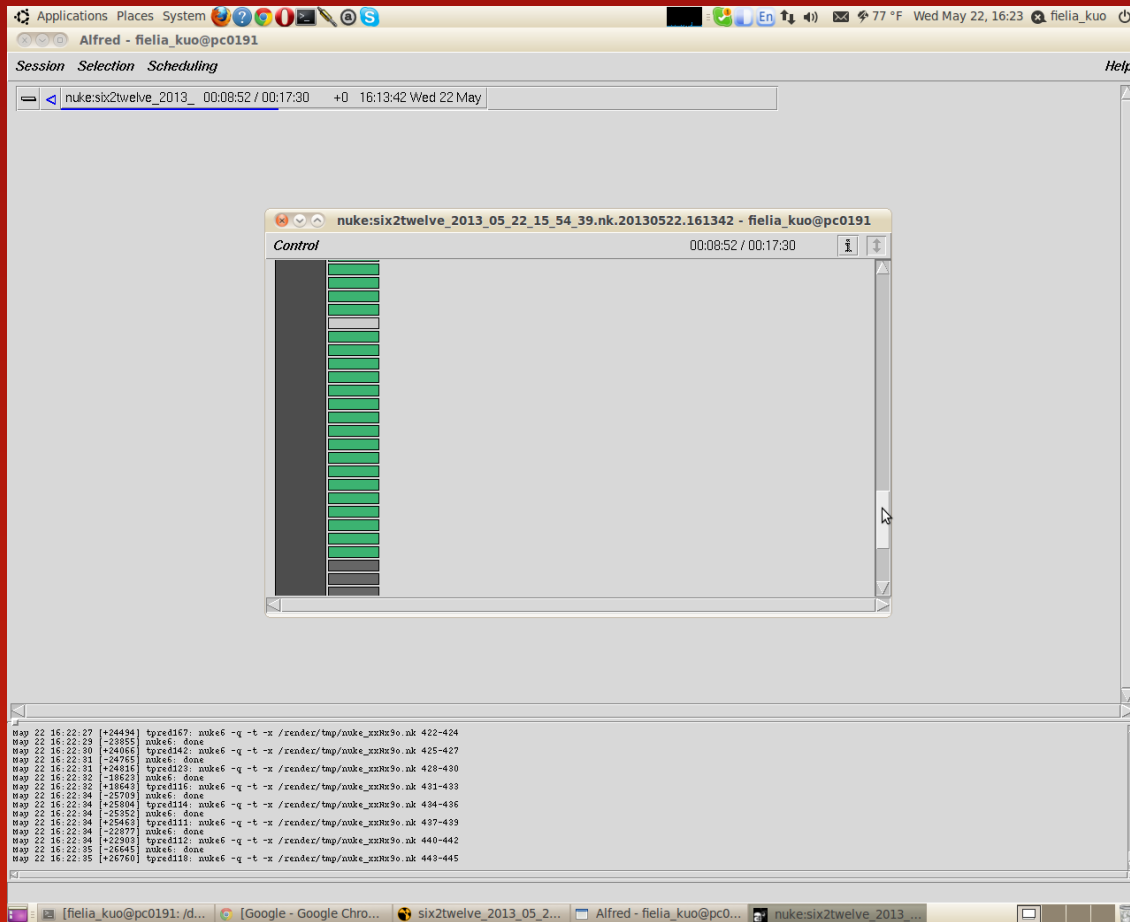


★ 婁人者人恆婁之

Render Farm



★ 婊人者人恆婊之



★ 婁人者人恆婁之

"奇怪耶!? 算好的圖怎麼會掉格?"

★ 婁人者人恆婁之

```
>>> 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
```

★ 婁人者人恆婁之

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:

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

★ 沒有正派,沒有反派,只有All Py



閃乱カグラ SHINOBI VERSUS 少女達の証明

★ 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.

★ 沒有正派,沒有反派,只有All Py

おわり!

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