Reflective Journal

Student name: Leszek Dubicki

Programme: Higher Diploma in Computing in Cloud Computing

Month: 1

# My Achievements

1. Successfully run first test.

One of possible technologies I might use is Windows COM to connect Solidworks into my Cloud system (one of possible access methods to Solidworks API is COM). I was able to register Python COM server using “Hallo World Example” (from <http://docs.activestate.com/activepython/2.6/pywin32/html/com/win32com/HTML/QuickStartServerCom.html> )

The server code:

**class** **HelloWorld:**

\_reg\_clsid\_ **=** "{DC14B301-F205-485D-8F29-DCAB846A90CC}"

\_reg\_desc\_ **=** "Python Test COM Server"

\_reg\_progid\_ **=** "Python.TestServer"

\_public\_methods\_ **=** **[**'Hello'**]**

\_public\_attrs\_ **=** **[**'softspace'**,** 'noCalls'**]**

\_readonly\_attrs\_ **=** **[**'noCalls'**]**

**def** \_\_init\_\_**(**self**):**

self**.**softspace **=** 1

self**.**noCalls **=** 0

**def** Hello**(**self**,** who**):**

self**.**noCalls **=** self**.**noCalls **+** 1

# insert "softspace" number of spaces

**return** "Hello" **+** " " **\*** self**.**softspace **+** str**(**who**)**

**if** \_\_name\_\_**==**'\_\_main\_\_'**:**

# ni only for 1.4!

**import** win32com**.**server**.**register

win32com**.**server**.**register**.**UseCommandLine**(**HelloWorld**)**

and run a VBA client code from within Solidworks

Dim swApp As Object 'Not actually used

Sub main**()**

Set swApp **=** Application.SldWorks 'Still not actually used

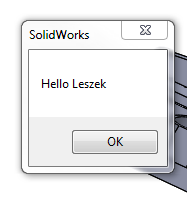
'Create TestServer Class Instance:

Set Demo **=** CreateObject**(**"Python.TestServer"**)**

MsgBox Demo.Hello**(**"Leszek"**)**

End Sub

The result was MessageBox:



Which means that my COM server was working within the system and I can use it to connect SolidWorks to my API.

1. Project Proposal submitted on Moodle.
2. Successfully installed Freecad on my Debian Linux machine (version 0.14, according to <http://www.freecadweb.org/> the latest stable version is 0.15 but on Debian Wheezy official repositories 0.14 binary package is maintained)
3. I’ve found my old shaft calculation article and shaft calculation script I’ve created during my mechanical studies (they are in this folder in my Github repository: <https://github.com/leszekdubicki/CADCloud/tree/master/shafts> ). The script needs to be rewritten (I’m going to create api to access shaft calculation module and also web app using this API)

# My Reflection

I decided that I’m going to use Python with Flask to build my API as well as my shaft calculation web application. On a client side I’m going to use requests module to communicate with my API (it’s nicely described in this article: <http://docs.python-requests.org/en/latest/index.html> )

Due to limited time I wasn’t able to get more into FreeCad scripted objects, only basics of modelling in Freecad (which will be needed in order to create example shaft models that connect to CADClaud).

# Intended Changes

Next month, I will try to dig more into FreeCAD scripted objects and rewrite python my pkm module used to calculate shafts. I’ll also try to develop (or find existing standard) messaging / coding system to describe 2D geometrical objects (probably I need to either create a new on from scratch or update existing one since I need to pass objects ID’s specific to CAD apps