Annex E: Rhino Installation (Windows)

1. Run setup widget

Run the setup widget inside the folder 'sortal-setup'. This will install packages such as 'future', 'enum', 'mpmath' and the 'sortal' library, which ensure compatibility between IronPython and the Sortal API.

site-packages	8/14/2017 11:04 A...	File folder	
setup	8/14/2017 10:59 A...	Windows Batch File	2 KB

The computer may prompt for whether to allow the widget to make changes; click 'Yes' or 'Allow'. Wait for it to finish installing the packages.

Alternatively, if you are unable to run the 'setup' widget, you may manually copy-paste the files inside 'sortal-setup' in the following locations:

- sortal-packages -> copy 'sortal'
    - Paste to **C:\Program Files (x86)\Rhinoceros 5\Plug-ins\IronPython\Lib** or equivalent on your computer
- site-packages -> copy all files inside
    - Paste to **C:\Program Files (x86)\Rhinoceros 5\Plug-ins\IronPython\Lib\site-packages** or equivalent on your computer

It is advised that the 'sortal' library be regularly updated as it is currently undergoing constant changes. To do so, download the latest 'sortal_3D' or 'sgi_gh' package from the Sortal website, and run the setup widget inside the 'sortal-setup' folder found inside.

2. Set up link to sortal library

- ➔ Open Rhino
- ➔ Type in the command box: EditPythonScript
- ➔ In the Rhino Python Editor window, go to Tools
- ➔ Select 'Options'
- ➔ Select 'Files' (default tab)

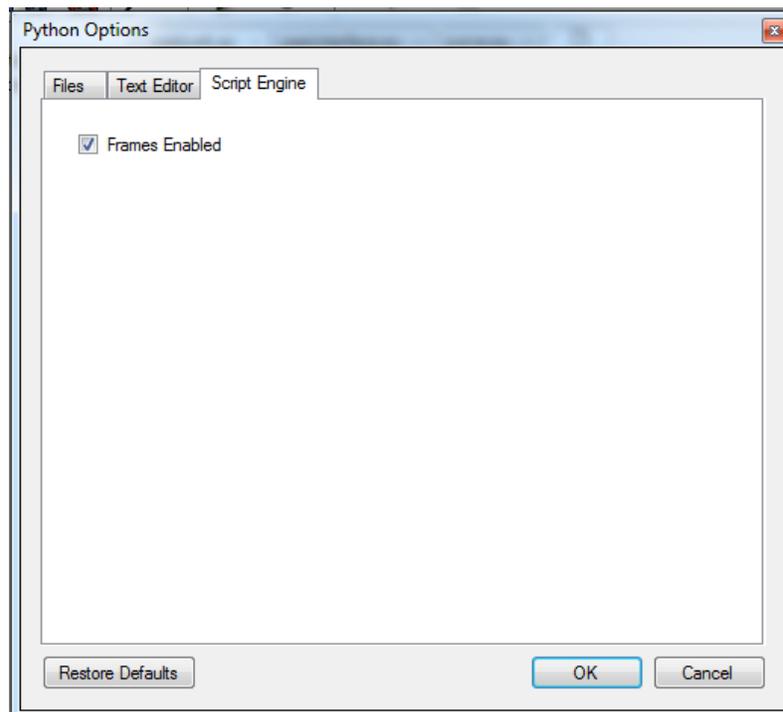Add in the following directory into Module Search Paths (change accordingly if your Rhinoceros 5's IronPython is installed in a different folder):

- • C:\ Program Files (x86)\Rhinoceros 5\Plug-ins\IronPython\Lib\site-packages

The result should look like the Rhino window pictured on the next page.
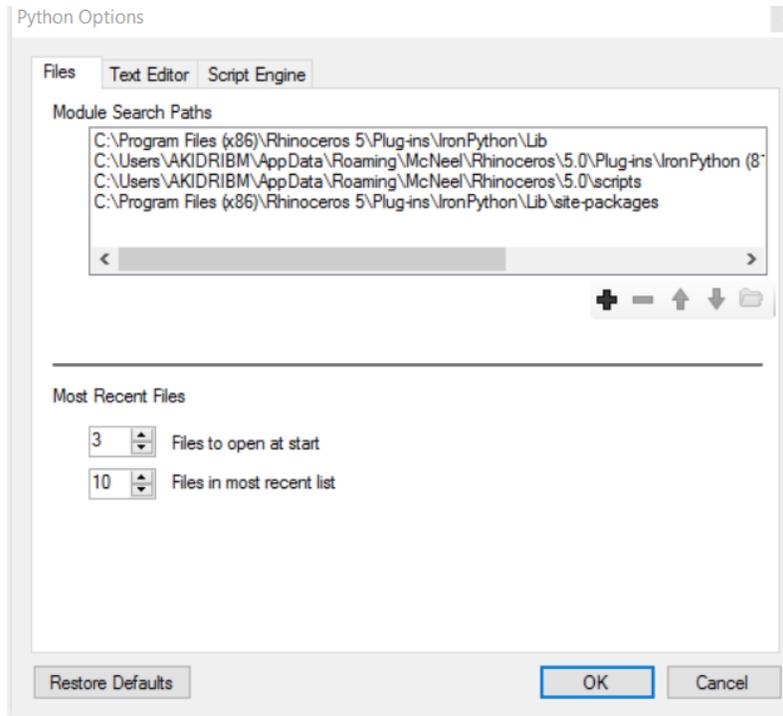
In the script engine tab, check the Frames Enabled option and click 'OK'.

Then close Rhino (close it totally, not just closing the Python editor) and relaunch it again for the changes to take effect. The Sortal API should then be ready for use; to check if it is, run the script 'set_up_all.py' (available in the 'sortal_3D' folder) and see if you get the response 'Setup complete' in the Rhino Python Editor.

## 3. OPTIONAL: Setting up SGI components in Rhino Grasshopper

a) **Update the 'sortal' library:** Before installing the SGI components ('UserObjects'), please update the the 'sortal' library first, either by following the steps in the 'Run setup widget' section above or running the 'setup' widget in 'sortal-setup' (this is present in the 'sgi_gh' folder).

b) **Install GhPython:** After steps 2 and 3, install GhPython onto Rhinoceros Grasshopper if you are using Rhino 5. The GhPython Grasshopper Assembly file (gha) can be downloaded from Food4Rhino here.

c) **Set up GhPython:** After downloading the .gha file:
   - ➔ In Grasshopper, choose File > Special Folders > Components folder. Save the gha file there.
   - ➔ Right-click the file > Properties > make sure there is no "blocked" text
   - ➔ Restart Rhino and Grasshopper

d) **Copy-paste SGI UserObjects:** Copy all the GH User Objects from the folder called 'sgi_components'. Paste these into the folder called 'UserObjects', which can normally be found inside the Grasshopper folder. To illustrate (the User Objects are indicated by the green box):


Start up Rhino 5, and then Grasshopper. The User Objects should be present as a specific tab in the Grasshopper Components Tab Panel called 'SGI', like below:
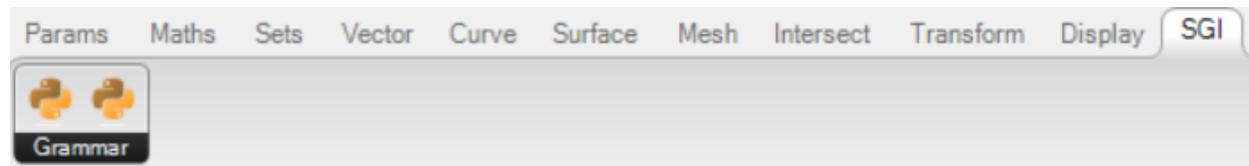
e) **When updating all SGI components in a GH file:** First, insert the SGI Update Component into the relevant GH file, like on the next page.
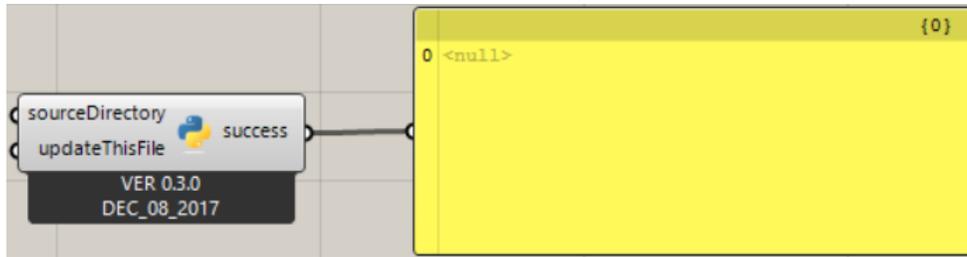
If the newest components are located outside the Grasshopper UserObjects folder (usually found in C:\Users\<USERNAME>\AppData\Roaming\Grasshopper\UserObjects), input the location of the latest version of the SGI Components via a Panel to 'sourceDirectory', then set Toggle to 'True'.
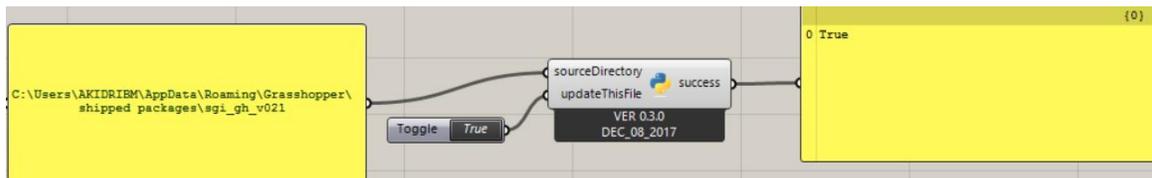

This will do two things:

- Copy the newest components to the Grasshopper UserObjects folder to replace the old ones, so that the components accessible via the GH Toolbar are the latest ones.
- Replace the code of the similarly named component inside the GH file where SGI Update is located with the code of the corresponding latest version.

Alternatively, the 'sourceDirectory' input of the SGI Update component can be optional. In this case, the new components must also be copied or already be present into the Grasshopper UserObjects Folder, since this is where the SGI Update component will look for the latest components.

Setting Toggle to 'True' will then replace the code of the similarly named component inside the GH file where SGI Update is located with the code of the corresponding latest version.
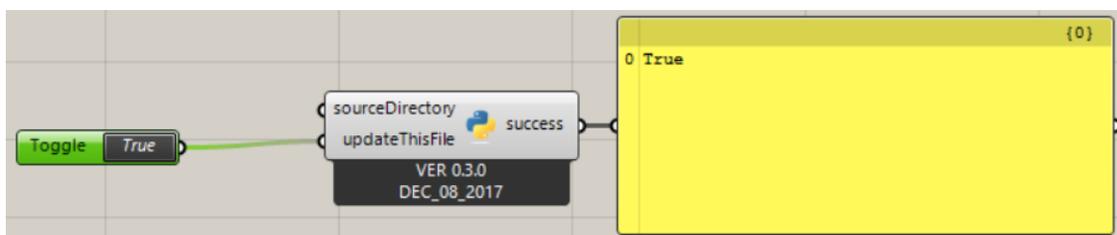
'success' will output 'True' in both cases if the update was successful.