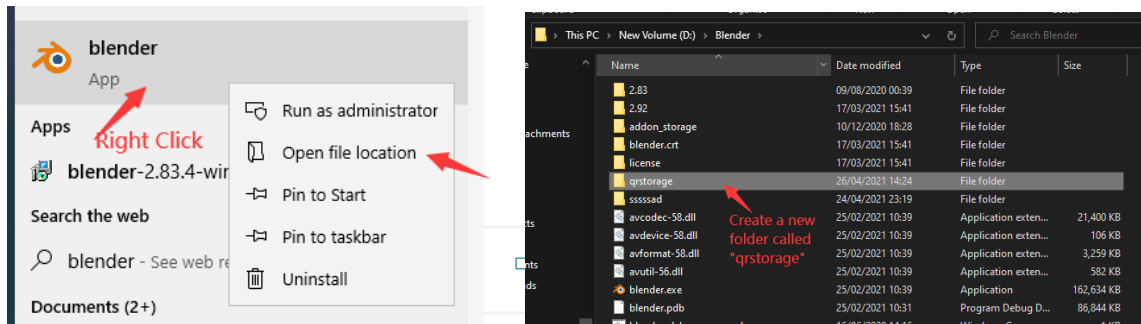


## Operation Manual / Check List

### [1] Pre - installations

- 1) This addon is built based up on Blender 2.9.2.00 and works for Blender version 2.9x. Be sure the correct blender version is installed.<sup>1</sup>
- 2) This addon has only been tested on Windows platform. The performance on Linux and MacOS is uncertain.
- 3) Please located where the Blender is installed and create an empty folder name “qrstorage”:



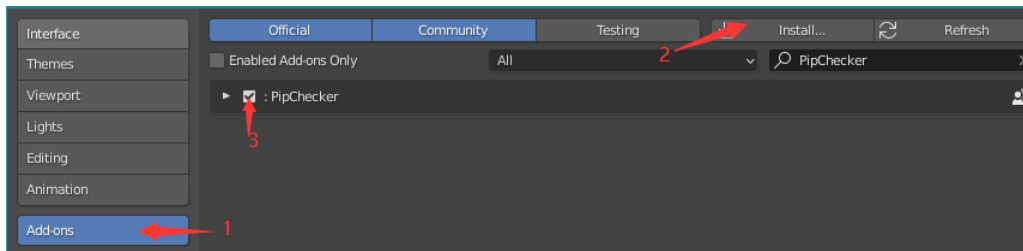
- 4) There are 2 Add-ons in the file: Pipchekcerv1.py and qrc\_addon\_version101.py

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<sup>1</sup> 2.9x Version is required due to the pre-installed Pip module within this version of blender API.

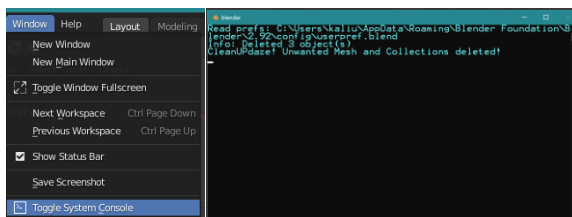
## [2] Installation of the PipChecker Add-on (Must Do before using the QR Cube Generator)

- (0) Edit > Preference > Add-ons(1) > Install an Add-on (2), then choose the pipcheckerv1.py addon file to install.



Toggle the addon after installation (3)

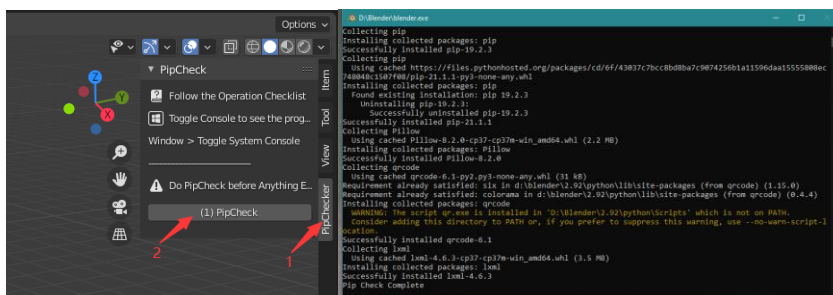
- (1) Toggle System Console to see the addon progress (Window > Toggle System Console)



- (2) Locate the PipCheck Add-on on the UI side Panel, and Press **Button (1) Pip Check** – Performs a pip check and install required python library and module (pip, pillow, qrcode, lxml).

It will check if Pip and required library is installed or not, and auto update.

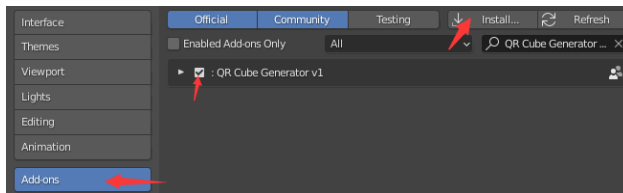
Wait until console shows “Pip Check Complete”.



The Pip check program must be installed and ran once before installing the QR Cube Generator addon!

### [3] Installation of the QR Cube Generator Add-on

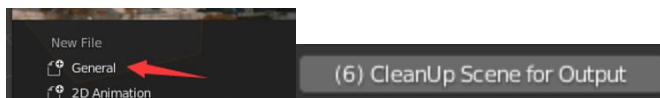
- (0) Edit > Preference > Add-ons(1) > Install an Add-on (2), then choose the qrc\_addon\_version101.py addon file to install.



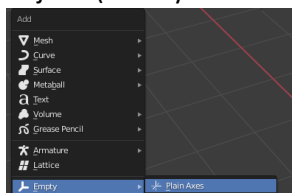
Toggle the addon after installation (3), Add-on is located at the same side UI panel as Pip checker.

### [4] Using the QR Cube Generator Addon – Part 0

- (0) Create a new empty general Blender file and delete everything in the scene (hotkey A then X / Or use CleanUp Scene for Output Button)

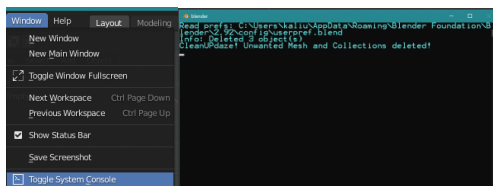


- (0.1) Now the addon will disappear from the side panel, to reenale it, create a new empty object. (hotkey Shift+A > Empty > Plain Axes)



### [5] Using the Addon – Part 1 & 2

- (1) Toggle System Console to see the addon progress (Window > Toggle System Console)  
(Ignore this step if your console is opened already)



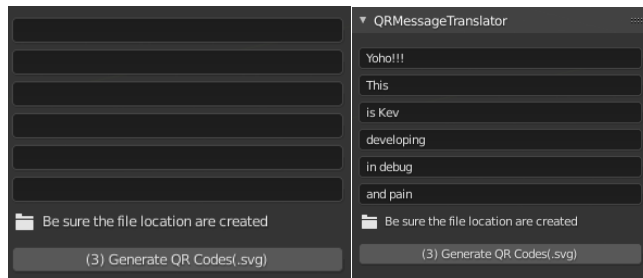
- (2) Press **Button (2) Add the Maincube** – Generates a blank 3D Cube for further steps.

Wait until the console shows “Main Cube Created”

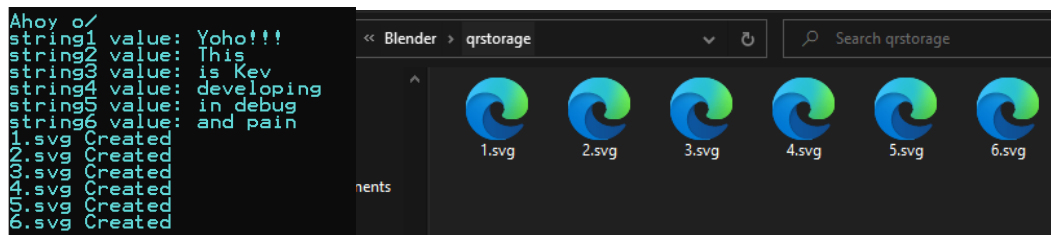


## [6] Using the Addon – Part 3

- (3) Enter inputs in the empty bars, each empty bar represents a face of the cube. Please be aware that the max length for each input is limited to 14 characters including space.<sup>2</sup>



- (3.1) Once the input(s) are entered, press **Button (3) Generate QR Codes (.svg)**. – Generates 6 .svg file QR codes in the “qrstorage” folder. Wait until the console shows “xxx.svg Created”

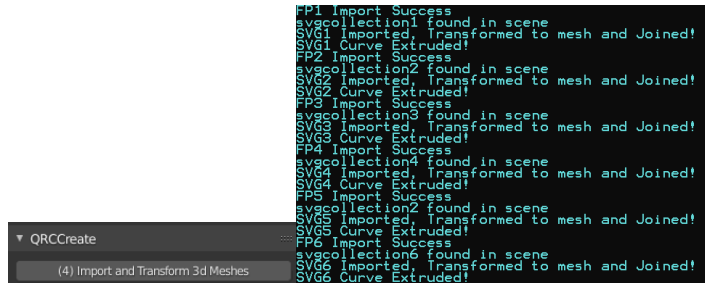


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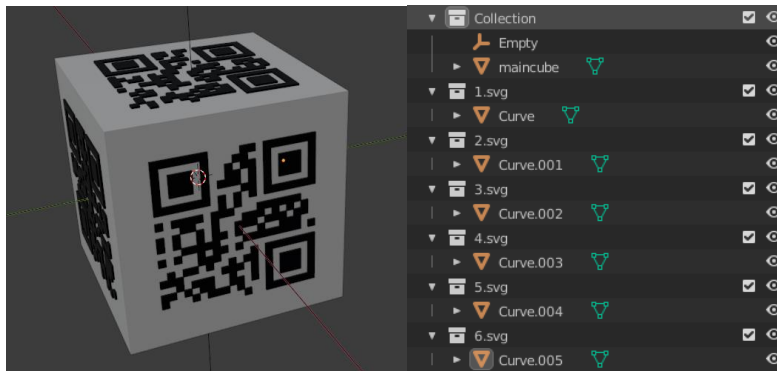
<sup>2</sup> This limitation is to do with the information capacity and versions of V1 module 1 QR Code. Further explanation – see Software limitations.

## [7] Using the Addon – Part 4 & 5 & 6

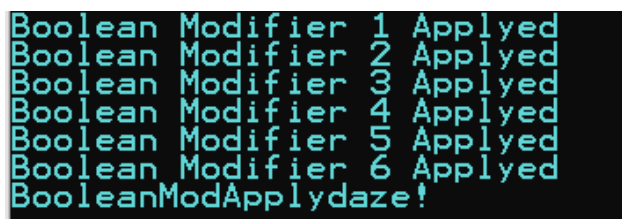
- (4) Press **Button (4) Import and Transform 3d Meshes** – Performs an import of 6 .svg files, transform into meshes, resize, relocate, and extrude into 3d objects. Wait until console say all 6 SVG Curves are Extruded.



Now in the layout, there should be QRcodes on each face of the cube. Also, Collections 1-6.svg are created along side 6 meshes named Curve – Curve.005.



- (5) Press **Button (5) Boolean Mod Apply** – Performs 6 Blender Boolean Module on the main cube (data from each curve mesh). Which will hollow the cube in the shape of QR codes. Wait until console shows “BooleanModApplydaze!”, this process may take time depended on the PC performance.



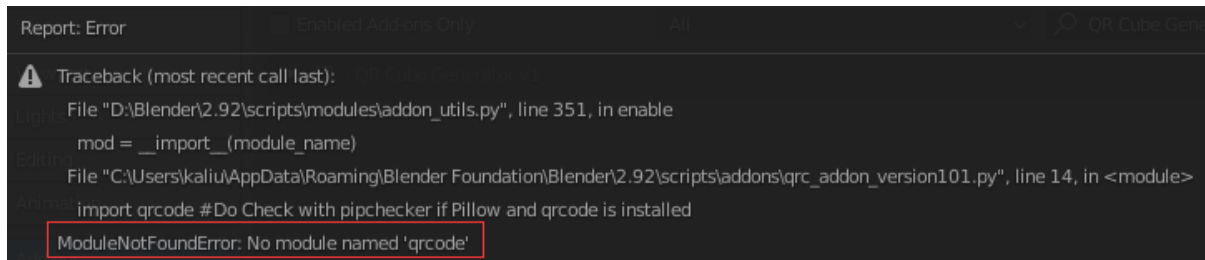
- (6) Press **Button (6) Clean Up Scene for Output** – Delete everything but the finished QR Cube. Wait until console shows “Unwanted Mesh and Collections deleted!”



Now the entire process is complete, the main cube can be exported as .STL file for further use (e.g. 3d printing).

## **[8] Common Errors**

### **Error (1)**



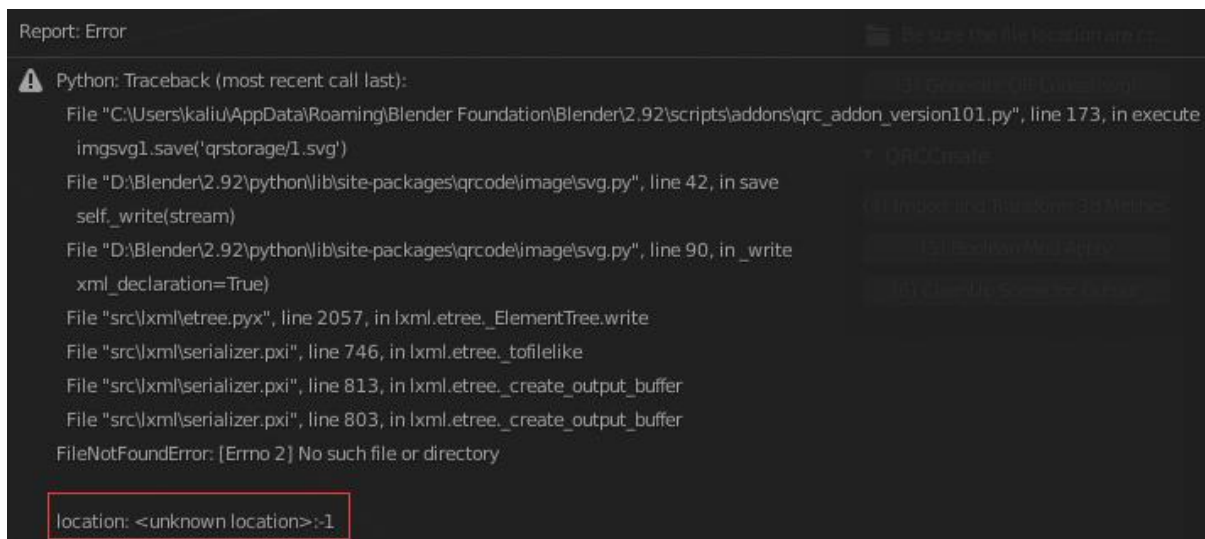
The image shows a Blender console window with a dark theme. At the top, it says 'Report: Error' and 'Enabled Addons Only'. Below this, a warning icon is followed by the text 'Traceback (most recent call last):'. The traceback shows the following lines: 'File "D:\Blender\2.92\scripts\modules\addon\_utils.py", line 351, in enable', 'mod = \_\_import\_\_(module\_name)', 'File "C:\Users\kaliu\AppData\Roaming\Blender Foundation\Blender\2.92\scripts\addons\qrc\_addon\_version101.py", line 14, in <module>', and 'import qrcode #Do Check with pipchecker if Pillow and qrcode is installed'. The final line of the error is 'ModuleNotFoundError: No module named \'qrcode\'', which is highlighted with a red rectangular box.

This is commonly found in step **[3] Installation of the QR Cube Generator Add-on (0)**

This is due to the required library not found when installing add-ons to blender, it indicated that library is missing and Pip checker need to be ran at least once.

Solution: Remove QR Cube Generator addon > Install Pip Checker Addon > Run Pip Checker > Install QR Cube Generator.

### **Error (2)**



The image shows a Blender console window with a dark theme. At the top, it says 'Report: Error'. Below this, a warning icon is followed by the text 'Python: Traceback (most recent call last):'. The traceback shows the following lines: 'File "C:\Users\kaliu\AppData\Roaming\Blender Foundation\Blender\2.92\scripts\addons\qrc\_addon\_version101.py", line 173, in execute', 'imgsvg1.save(\'qrstorage/1.svg\')', 'File "D:\Blender\2.92\python\lib\site-packages\qrcode\image\svg.py", line 42, in save', 'self.\_write(stream)', 'File "D:\Blender\2.92\python\lib\site-packages\qrcode\image\svg.py", line 90, in \_write', 'xml\_declaration=True)', 'File "src\xml\etree.pyx", line 2057, in lxml.etree.\_ElementTree.write', 'File "src\xml\serializer.py", line 746, in lxml.etree.\_tofilelike', 'File "src\xml\serializer.py", line 813, in lxml.etree.\_create\_output\_buffer', 'File "src\xml\serializer.py", line 803, in lxml.etree.\_create\_output\_buffer', and 'FileNotFoundError: [Errno 2] No such file or directory'. The final line of the error is 'location: <unknown location>:-1', which is highlighted with a red rectangular box.

This is commonly found in step **[6] Using the Addon – Part 3 (3.1)**

This is due to the required file path not found for exporting .svg files generated from the addon. It indicated that a file named after “qrstorage” need to be created at blender’s file location.

Solution: See Step **[1] Pre – installations (3)**