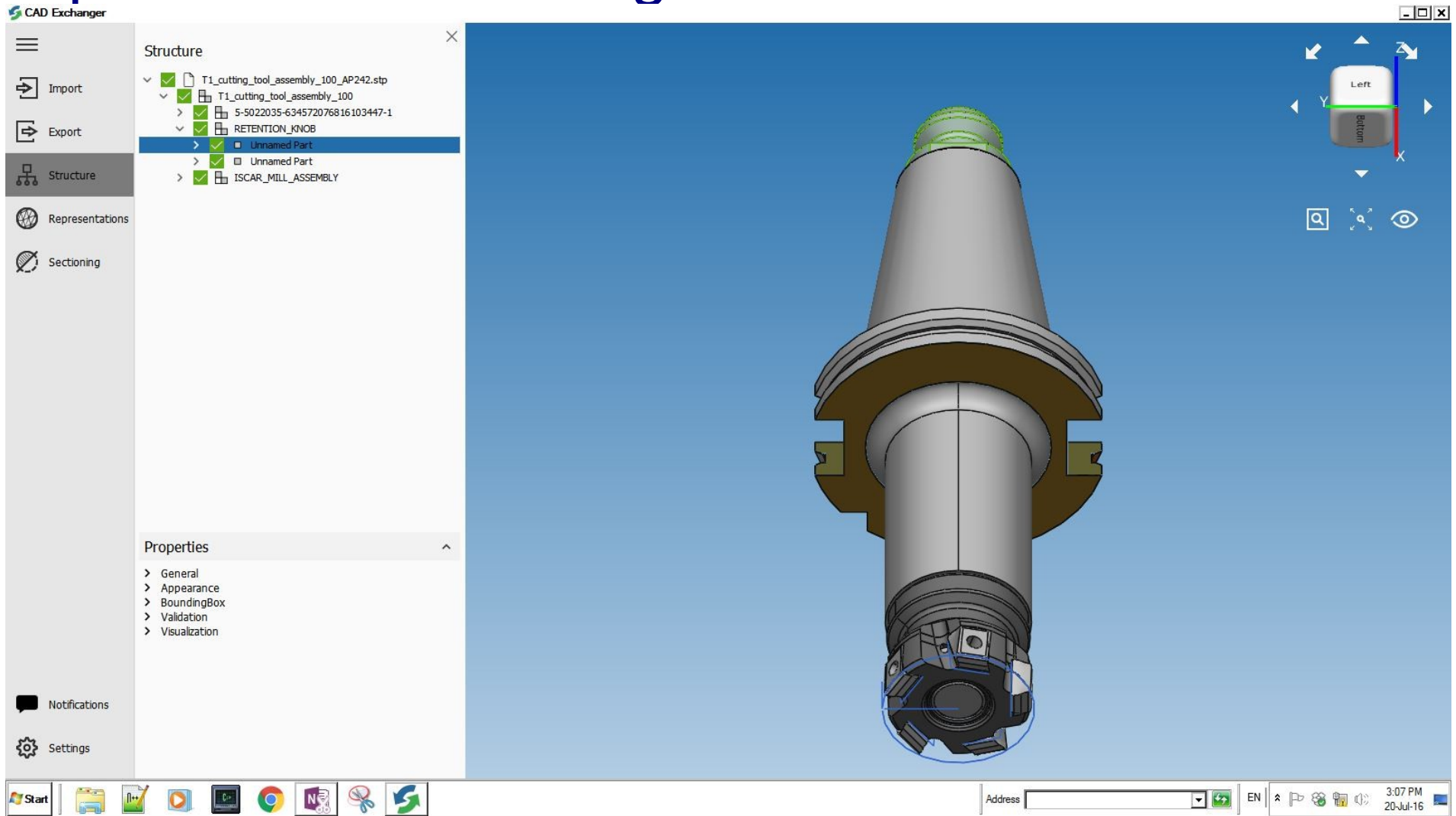


STEP to X3D conversion routes.

1. CADEXchanger v3.2 : Commercial product, Windows, Linux, Mac
2. PythonOCC: Python scripting of the C++ OpenCascade open source geometry engine.
3. SPRI web application: Online STEP file browser with options of viewing geometry in X3DOM or Cobweb, and downloading X3D file.

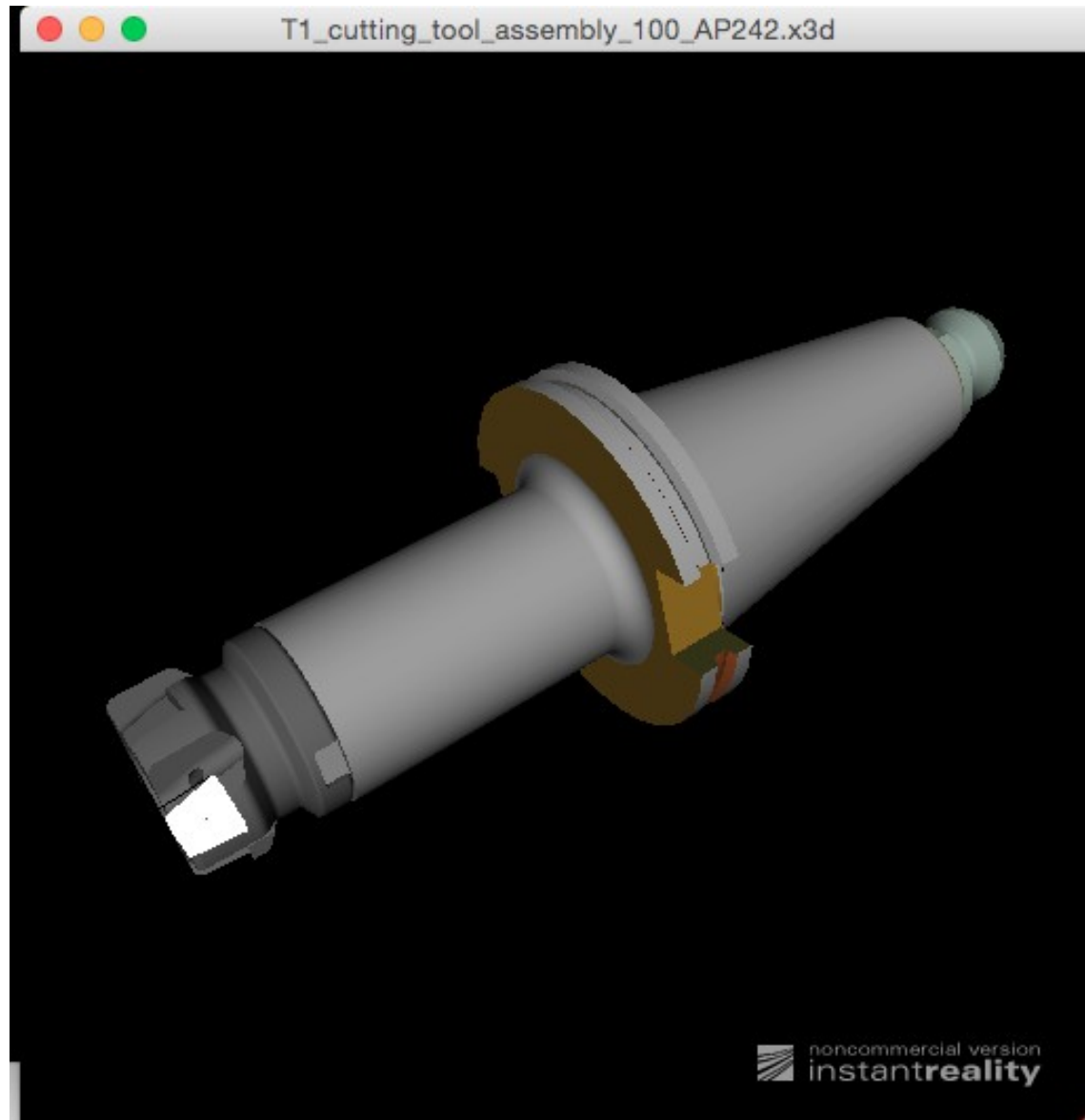
CAD Exchanger

<http://www.cadexchanger.com>



Screenshot after reading STEP file (AP 242). Parts and faces defined in the original STEP file

Result of CAD Exchanger export to X3D



PythonOCC: Python interface to OpenCascade geometry engine

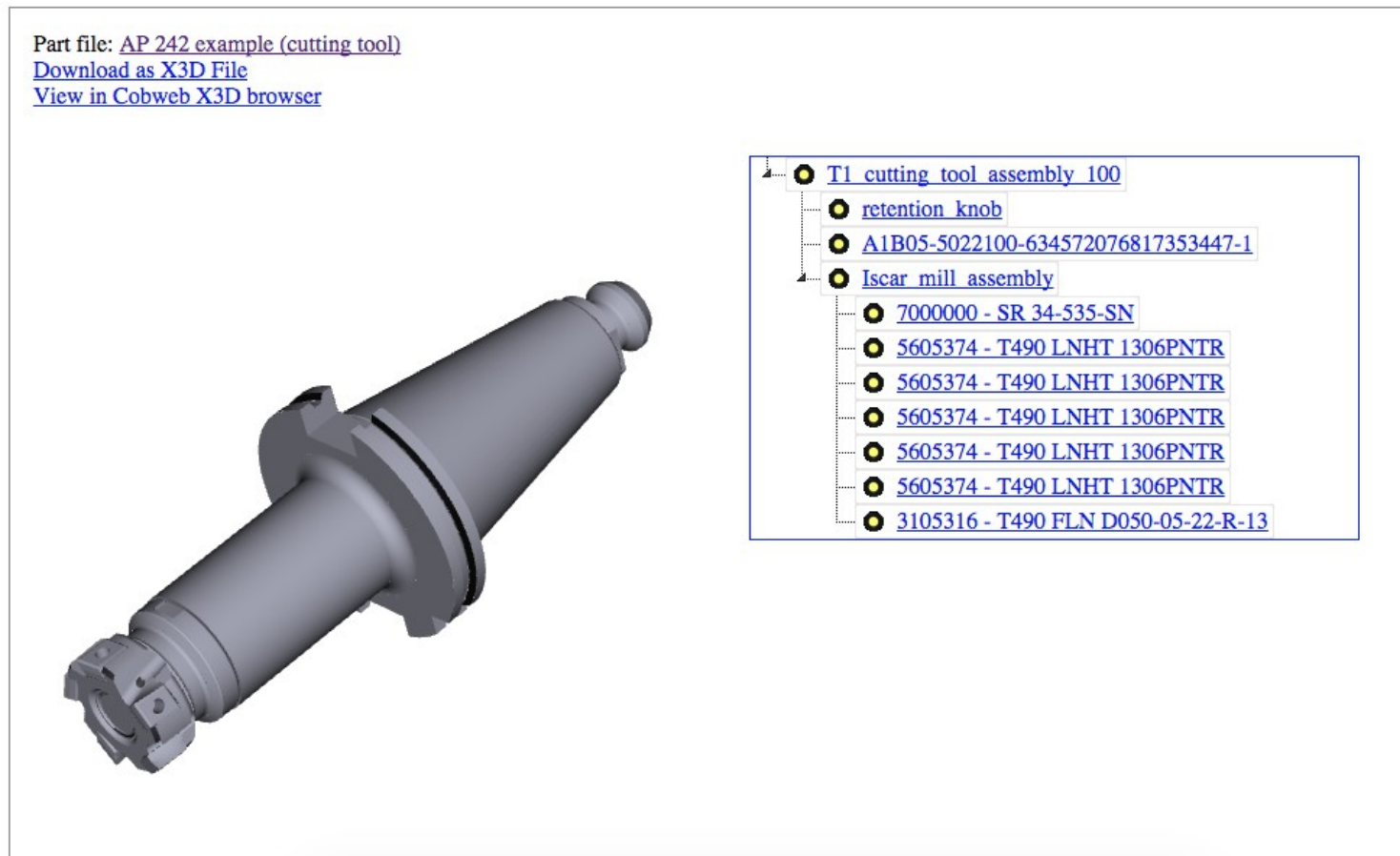
- Open Cascade open source geometry engine, in C++:
<http://www.opencascade.com>
- PythonOCC: <http://www.pythonocc.org>
- STEP to X3D Python script available on Web3D CAD public wiki:
http://www.web3d.org/wiki/index.php/STEP_X3D_Translation



X3D conversion result

SPRI web application

- Start at webpage <http://spri.kshell.com> to upload STEP file.



Result page: <http://spri.kshell.com/xt/shape/x3dom/f6hb20ckz8e5/23323738>

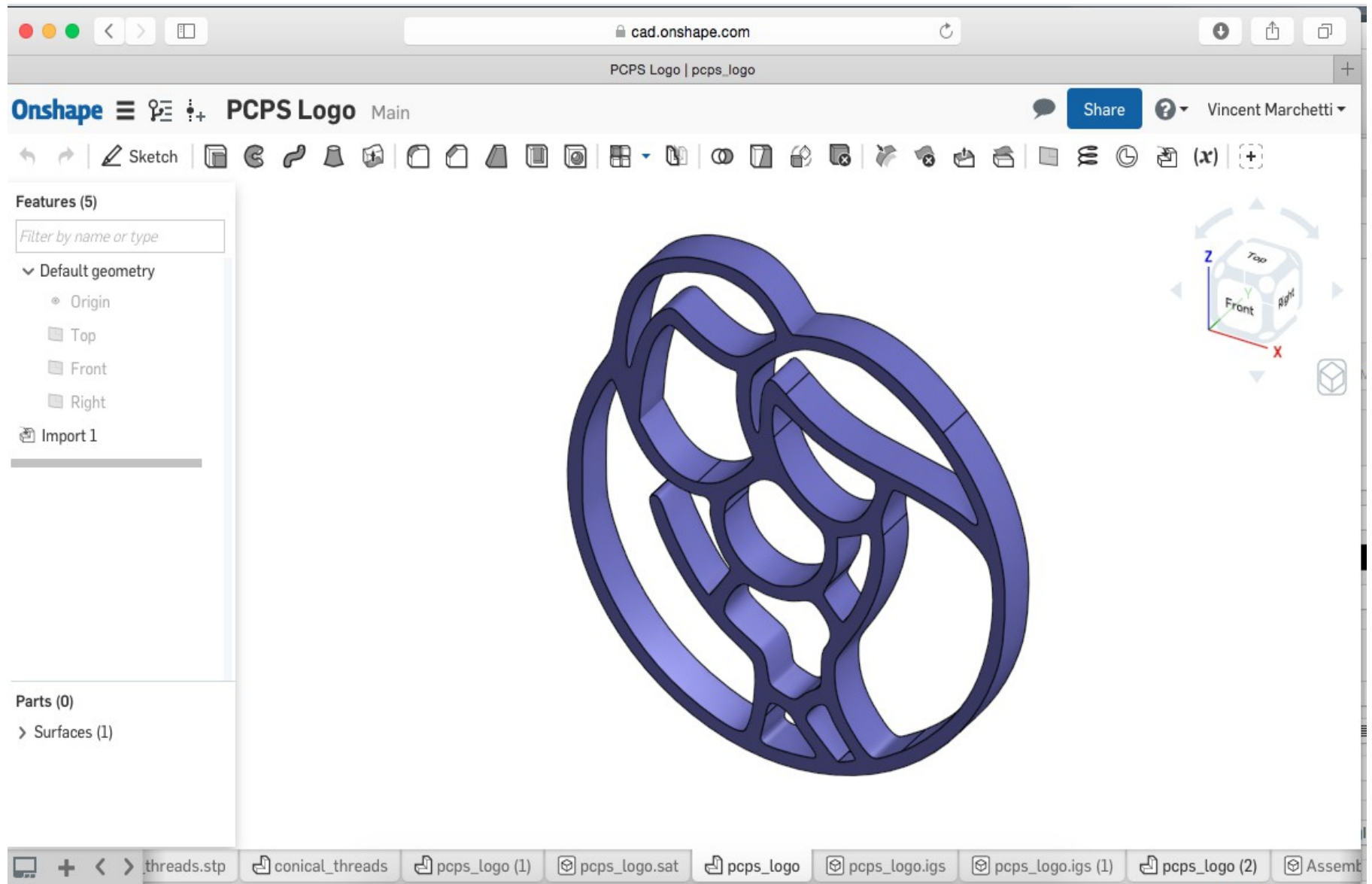
Comparison of STEP → X3D conversion capabilities

	CADEXchanger	PythonOCC	SPRI
AP 203, AP214, AP242 [CAD]	●	●	●
AP 238 [CAM]	●*		●
Colors from STEP file	●		
Preserve Assembly	●		●
Preserve Faces			●
Use CADGeometry component			●

* CADEXchanger does not separate multiple models in one file

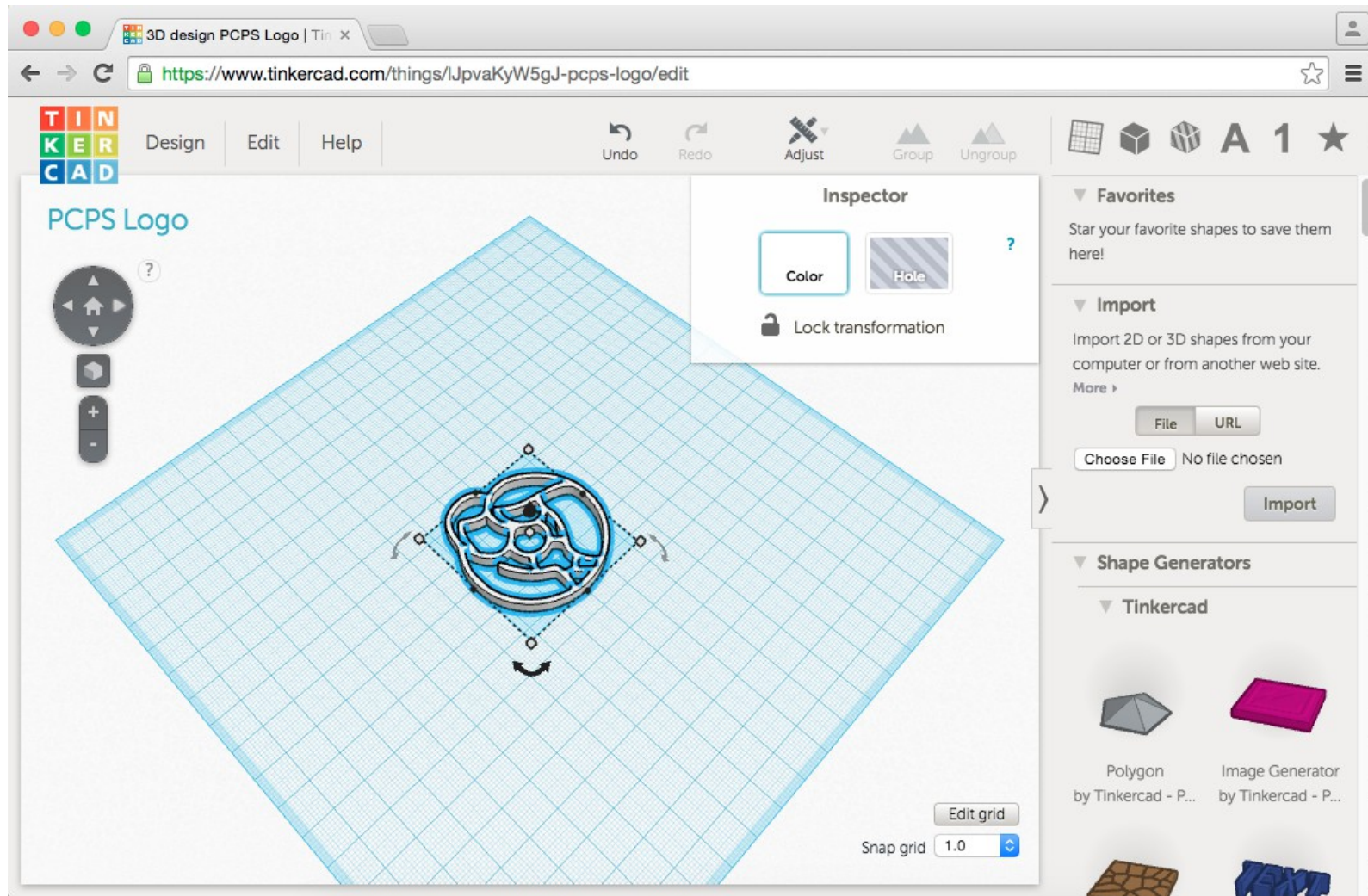
Online CAD modelers

OnShape <http://www.onshape.com>



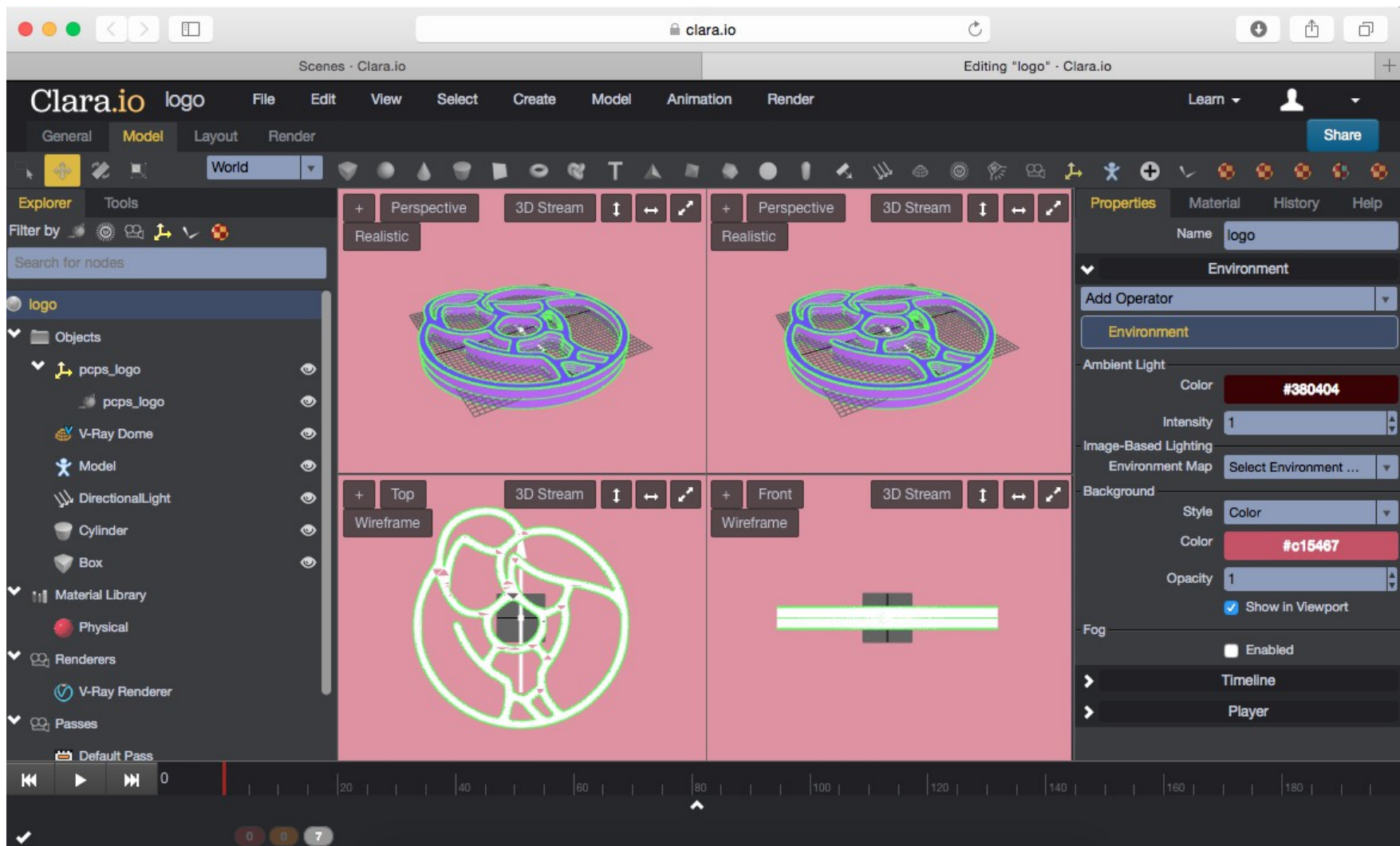
Exports to STEP (AP 214), exports assemblies and colored faces

TINKERCAD <https://www.tinkercad.com>



Has option to “Download for 3D Printing” as “X3D Colors”. Result is an X3D file in Interchange profile, with a single IndexedFaceSet colored by triangle

Clara.io <https://clara.io/>



Supports a “File > Export > Web eXtensible 3D” option, gives an X3D Immersive profile