

Laser cut box

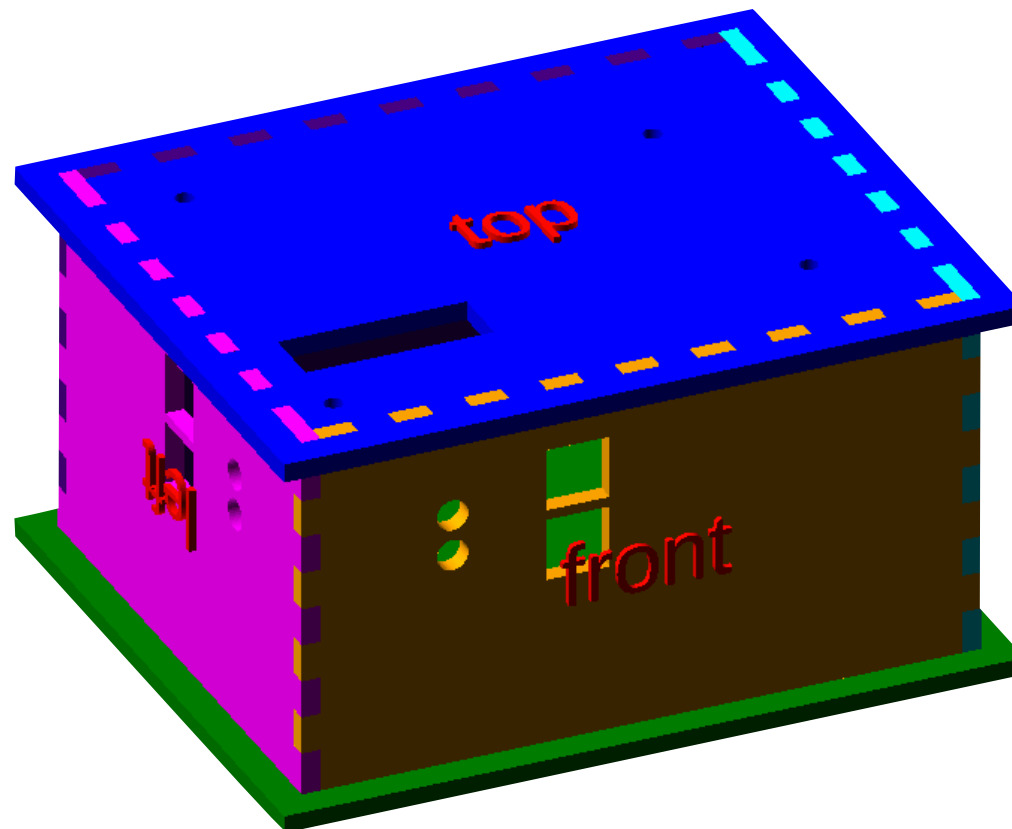
<https://github.com/Hackuarium/laser-cut-box>

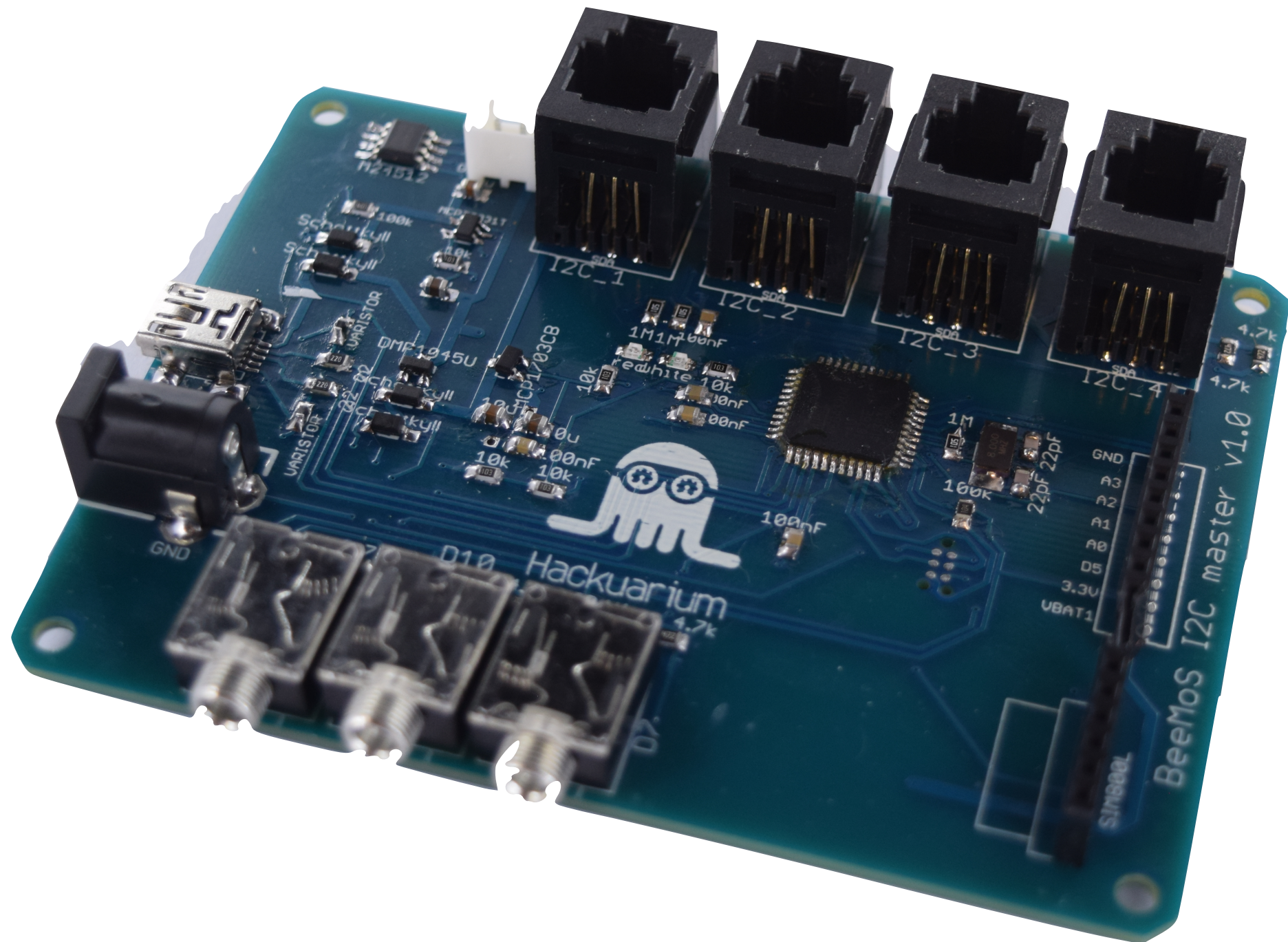
luc@patiny.com



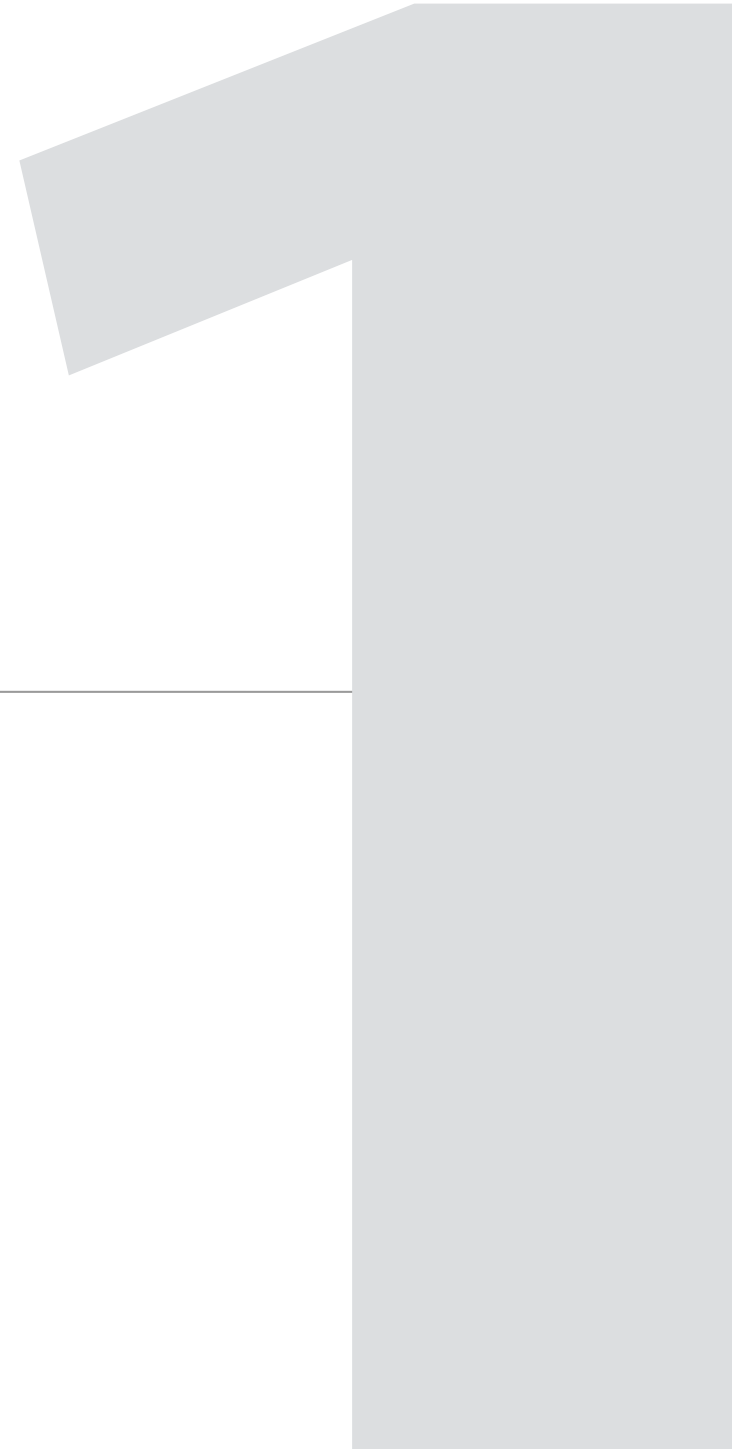
Goal

- Quickly design a box for PCB based projects



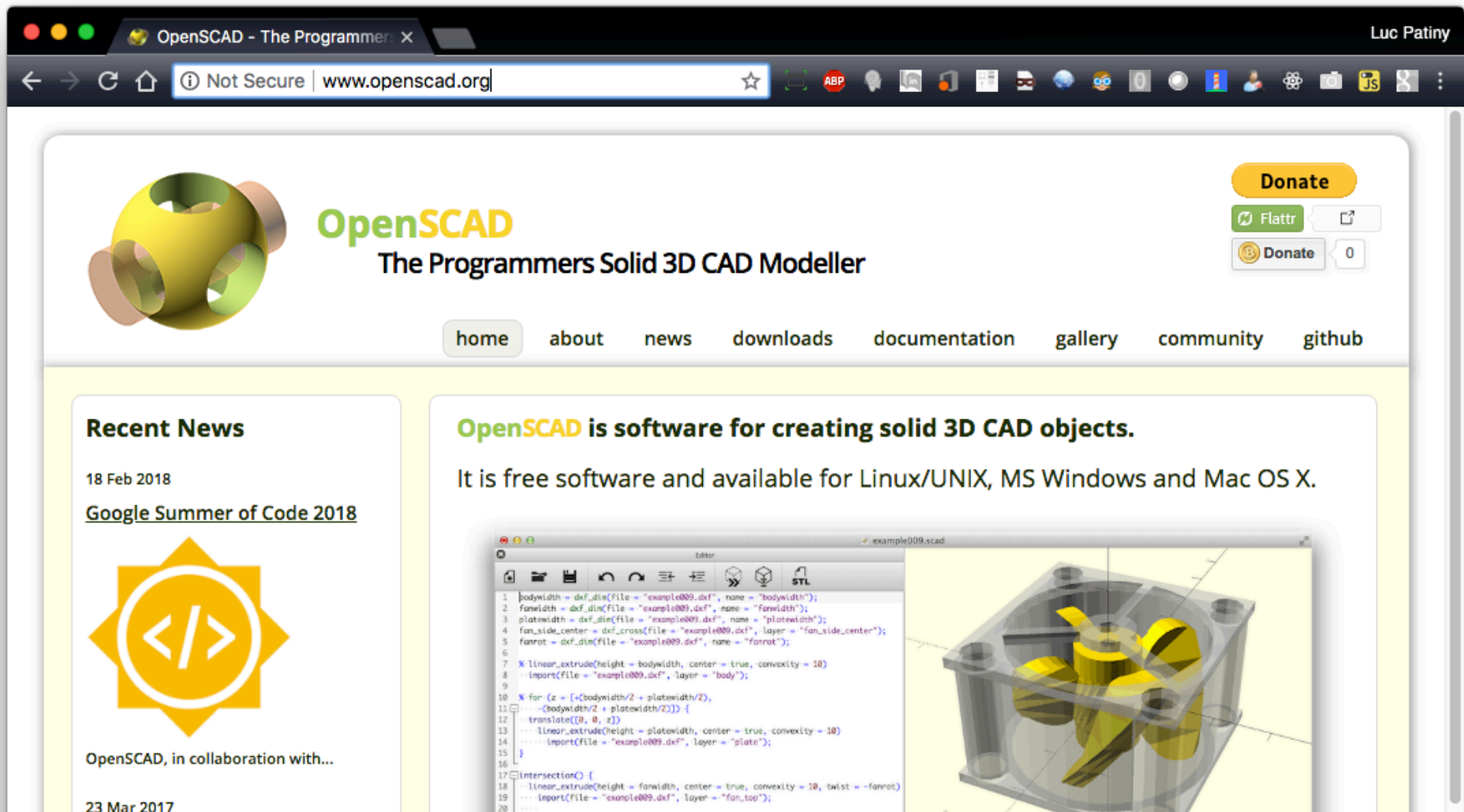


Installation



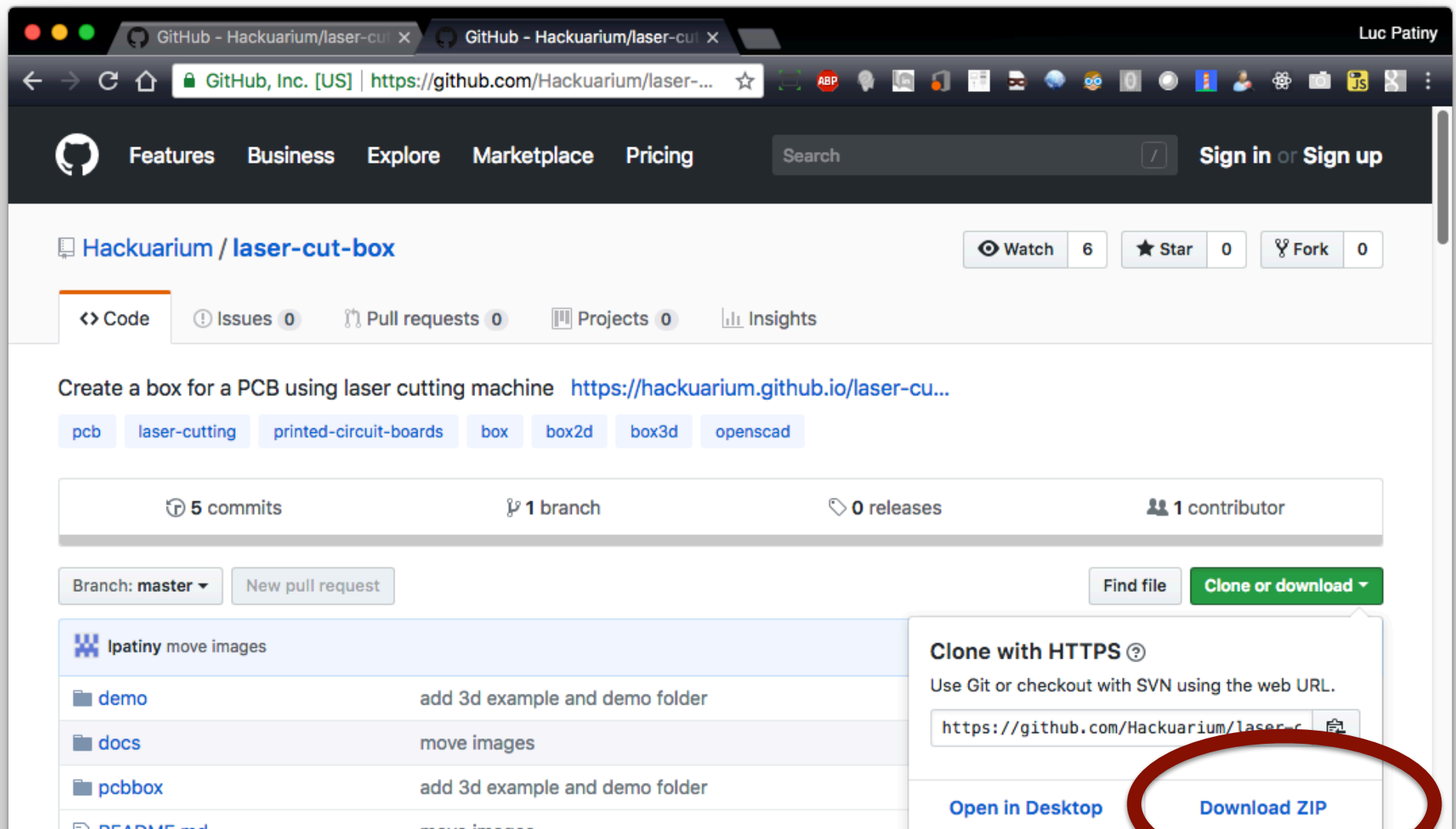
Install OpenSCAD

<https://github.com/Hackuarium/laser-cut-box>



Download the project

<https://github.com/Hackuarium/laser-cut-box>



The screenshot shows the GitHub repository page for **Hackuarium / laser-cut-box**. The repository description is "Create a box for a PCB using laser cutting machine" with a link to <https://hackuarium.github.io/laser-cu...>. The repository has 5 commits, 1 branch, 0 releases, and 1 contributor. The file list includes `demo`, `docs`, `pcbbox`, and `README.md`. A red circle highlights the **Download ZIP** button in the "Clone with HTTPS" section.

GitHub - Hackuarium/laser-cut X GitHub - Hackuarium/laser-cut X Luc Patiny

GitHub, Inc. [US] | <https://github.com/Hackuarium/laser-...> ☆

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Hackuarium / laser-cut-box Watch 6 Star 0 Fork 0

Code Issues 0 Pull requests 0 Projects 0 Insights

Create a box for a PCB using laser cutting machine <https://hackuarium.github.io/laser-cu...>

pcb laser-cutting printed-circuit-boards box box2d box3d openscad

5 commits 1 branch 0 releases 1 contributor

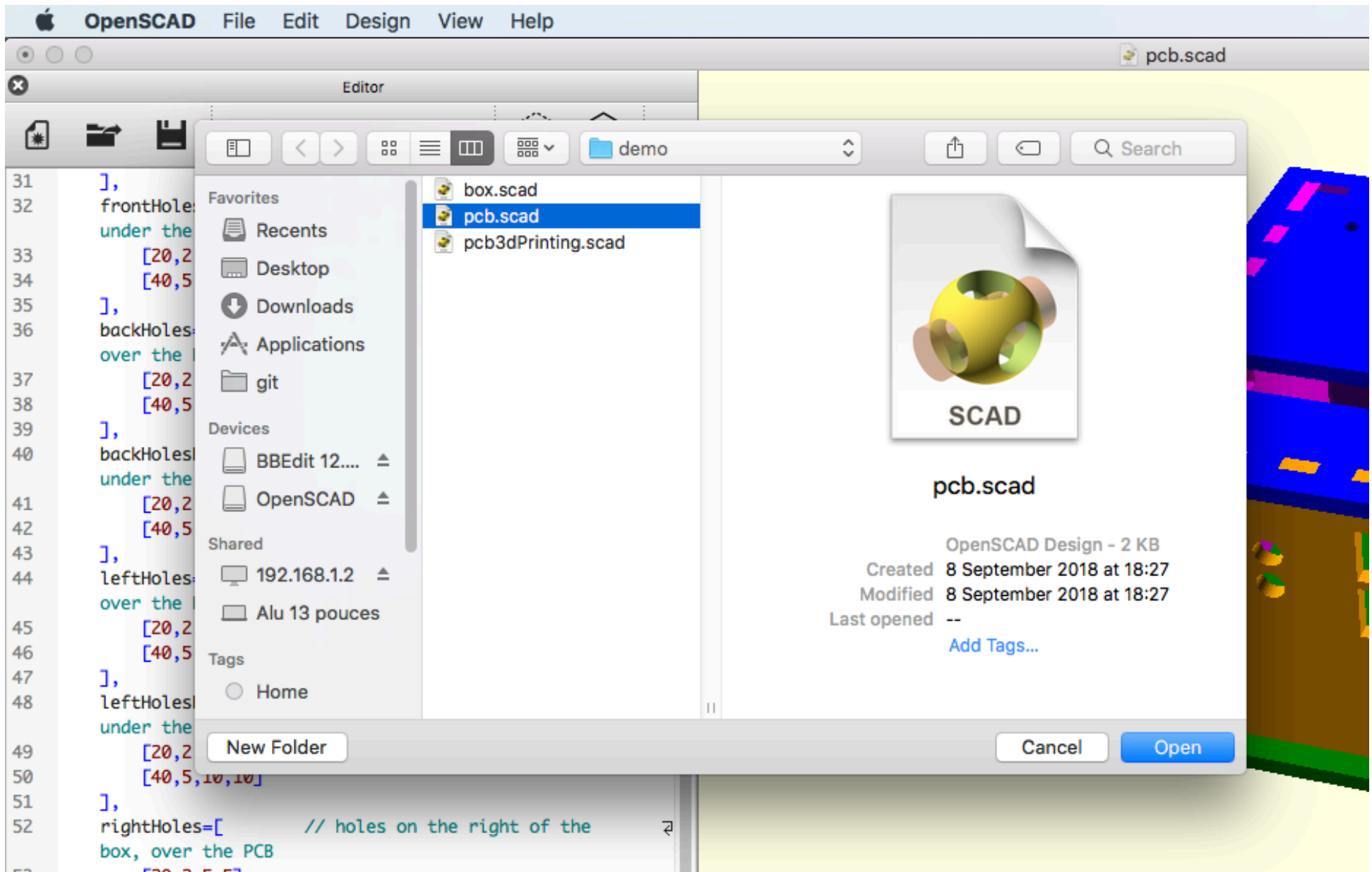
Branch: master New pull request Find file Clone or download

lpatiny move images

demo	add 3d example and demo folder
docs	move images
pcbbox	add 3d example and demo folder
README.md	move images

Clone with HTTPS ⓘ
Use Git or checkout with SVN using the web URL.
<https://github.com/Hackuarium/laser-c>
Open in Desktop Download ZIP

Open: demo → pcb.scad

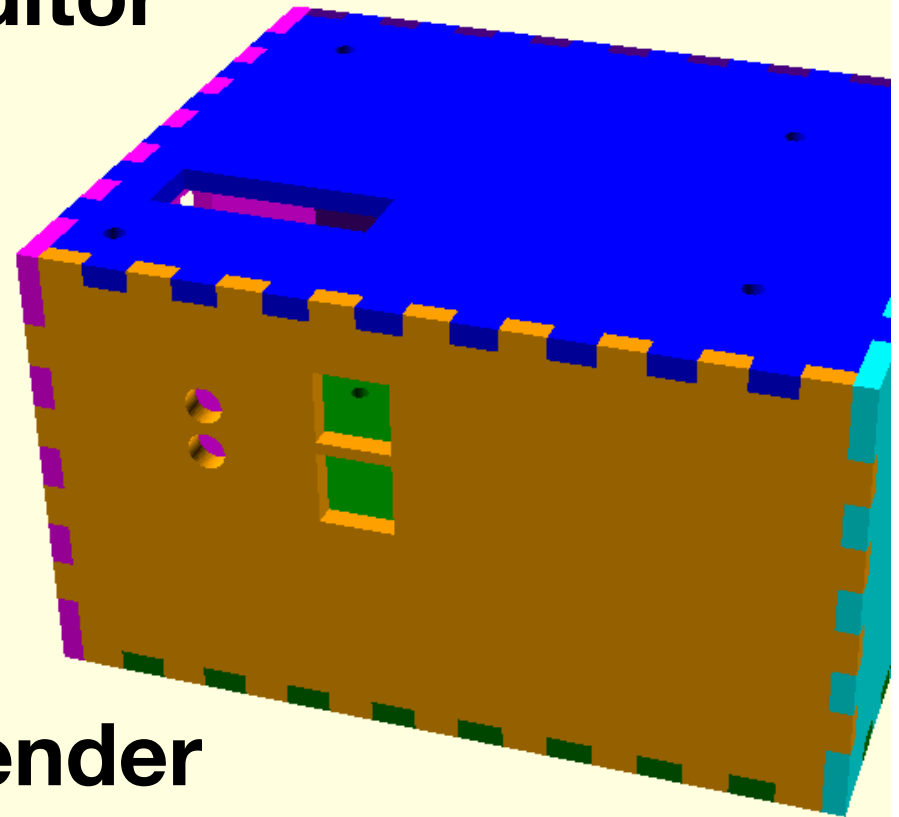


Code editor

Preview

Render

```
31 ],
32 frontHolesB=[ // holes in front of the box,
33     [20,2.5,5],
34     [40,5,10,10]
35 ],
36 backHoles=[ // holes in the back of the box,
37     over the PCB
38     [20,2.5,5],
39     [40,5,10,10]
40 ],
41 backHolesB=[ // holes in front of the box,
42     under the PCB
43     [20,2.5,5],
44     [40,5,10,10]
45 ],
46 leftHoles=[ // holes on the left of the box,
47     over the PCB
48     [20,2.5,5],
49     [40,5,10,10]
50 ],
51 leftHolesB=[ // holes on the left of the box,
52     under the PCB
53     [20,2.5,5],
54     [40,5,10,10]
55 ],
56 rightHoles=[ // holes on the right of the
57     box, over the PCB
58     [20,2.5,5],
59     [40,5,10,10]
60 ],
61 rightHolesB=[ // holes on the right of the
62     box, under the PCB
63     [20,2.5,5],
64     [40,5,10,10]
65 ],
66 showLabels=false, //should we show the labels
67 labelsSize=10, // size of the labels
68 3d=true, // 3d rendering or just 2d ?,
69 show="all" // used for 3D printing.
70 Possible values:
71 // all (default), top, bottom,
72 fulltop (5 faces), fullbottom (5 faces)
73 );
```



Console

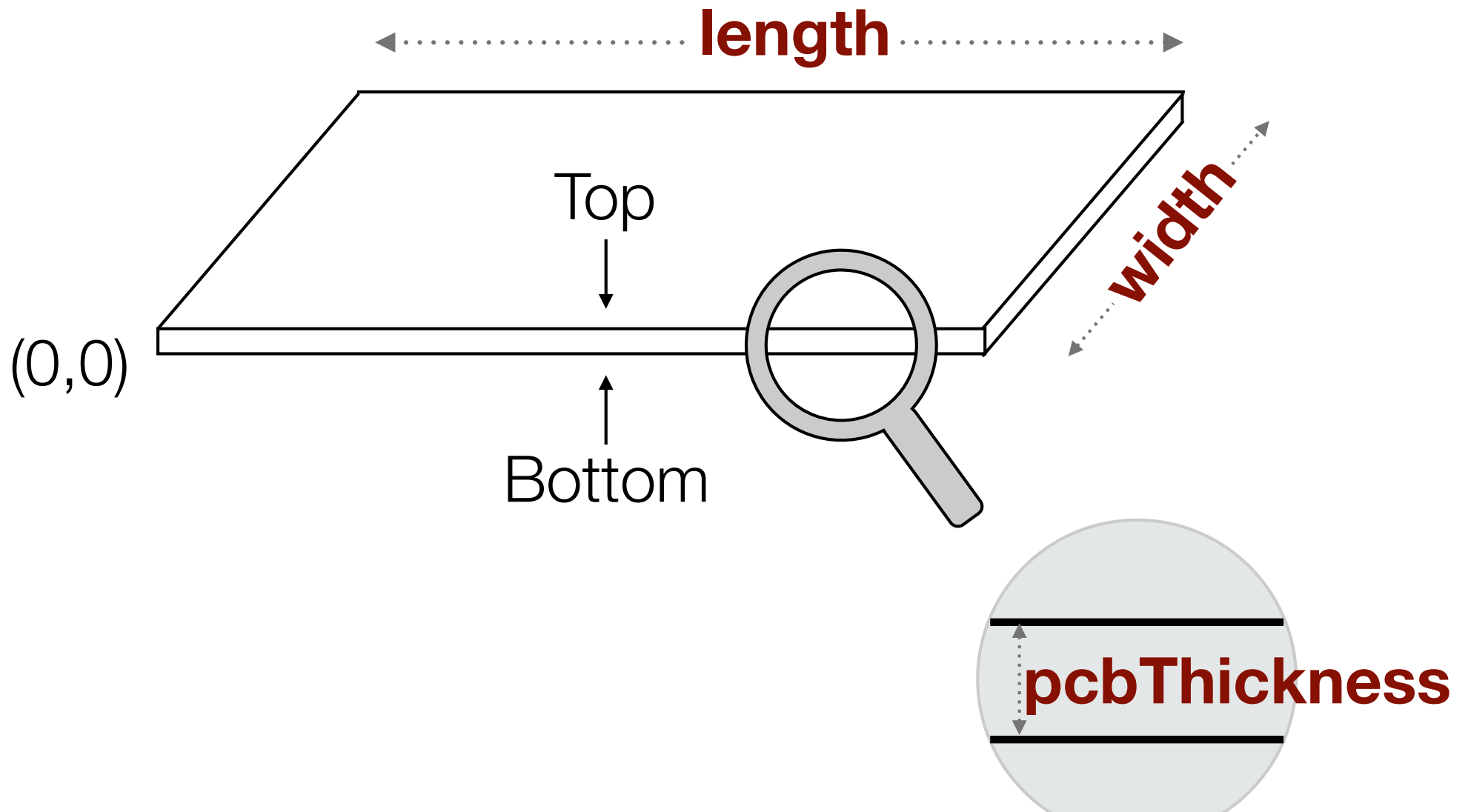
```
Saved backup file: /Users/lpatiny/Documents/OpenSCAD/backups/pcb-backup-JjKM7847.scad
Compiling design (CSG Tree generation)...
Compiling design (CSG Products generation)...
Geometries in cache: 259
Geometry cache size in bytes: 4400000
CGAL Polyhedrons in cache: 3
CGAL cache size in bytes: 8962536
Compiling design (CSG Products normalization)...
Normalized CSG tree has 6 elements
Compile and preview finished.
Total rendering time: 0 hours, 0 minutes, 0 seconds
```

Viewport: translate = [54.00 44.00 30.80], rotate = [60.20 0.00 17.90], distance = 336.10

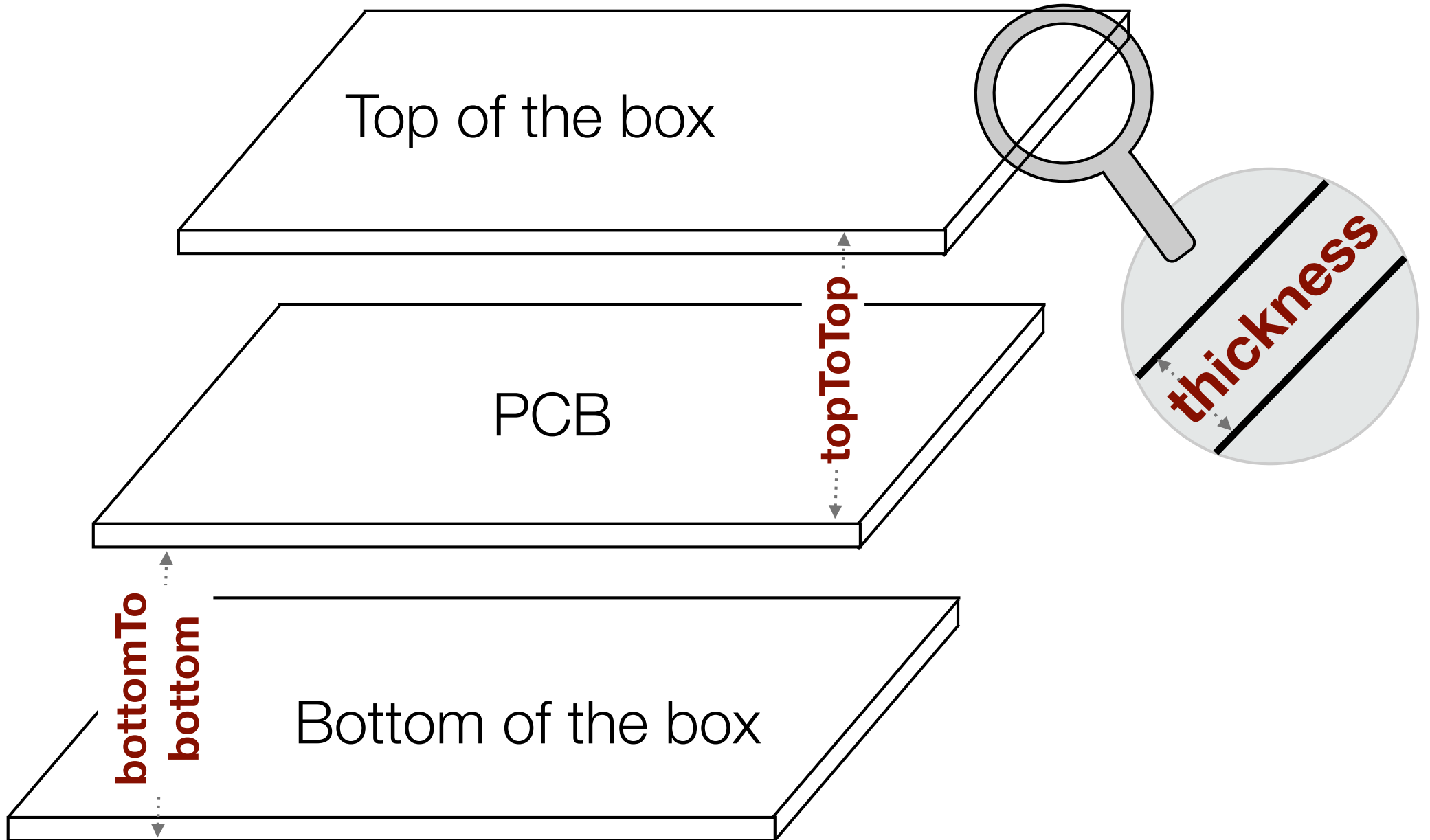
Parameters



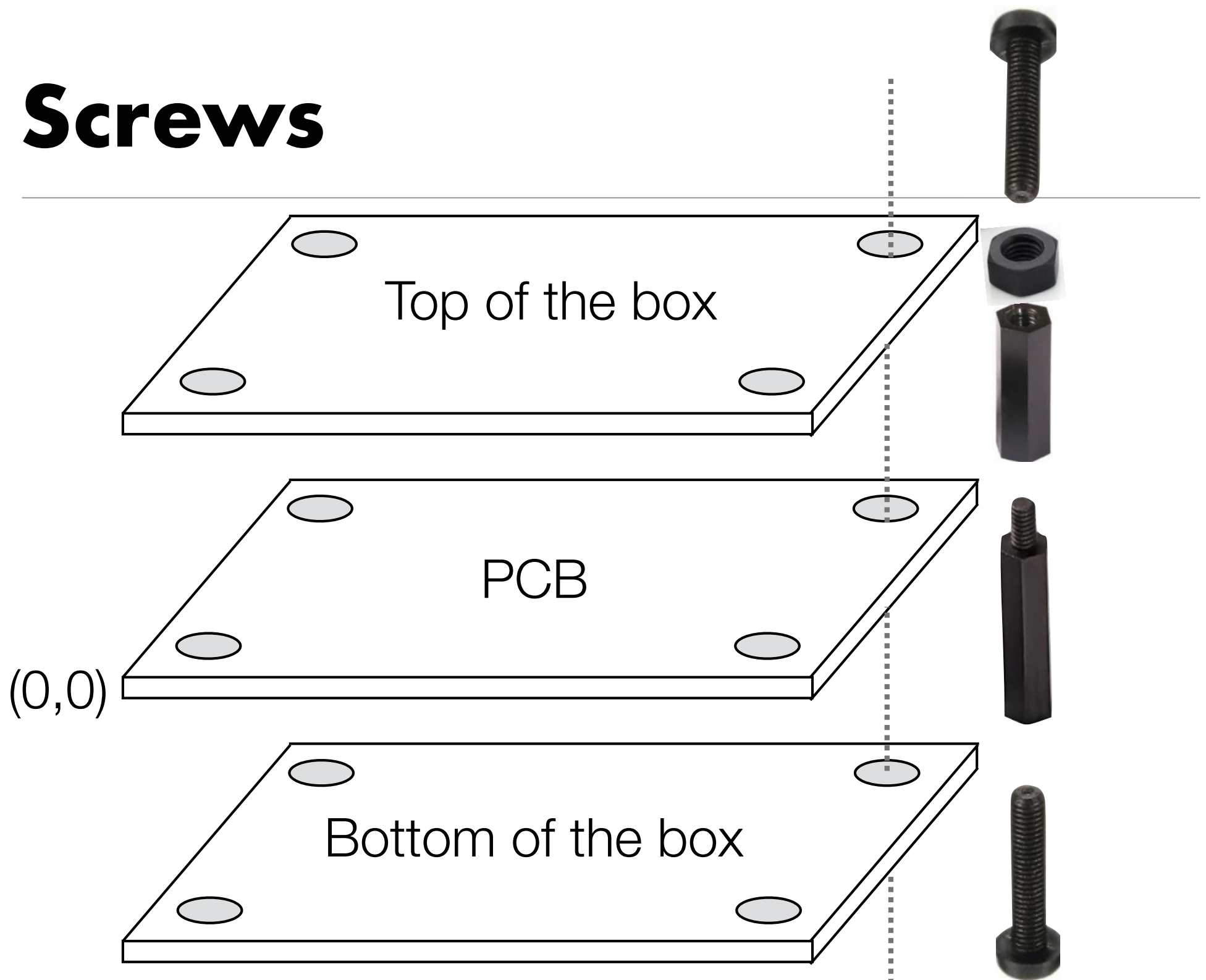
PCB



Distance top / bottom



Screws



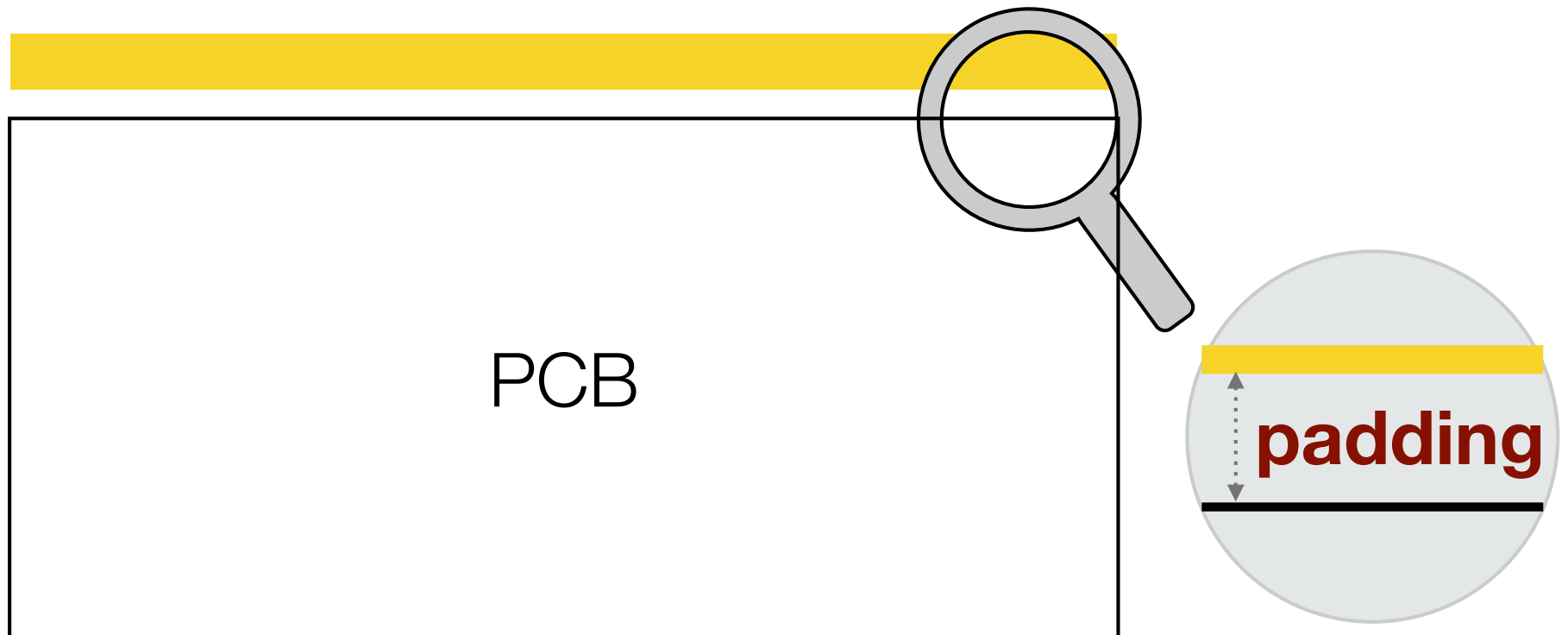
screws

```
screws=  
    [ 5, 5 ],  
    [ 10, 70 ],  
    [ 85, 15 ],  
    [ 80, 60 ]  
],  
screwDiameter=3,
```

- array of X / Y
- unlimited number of holes
- allows to fix the PCB
- holes on top and bottom
- should specify diameter

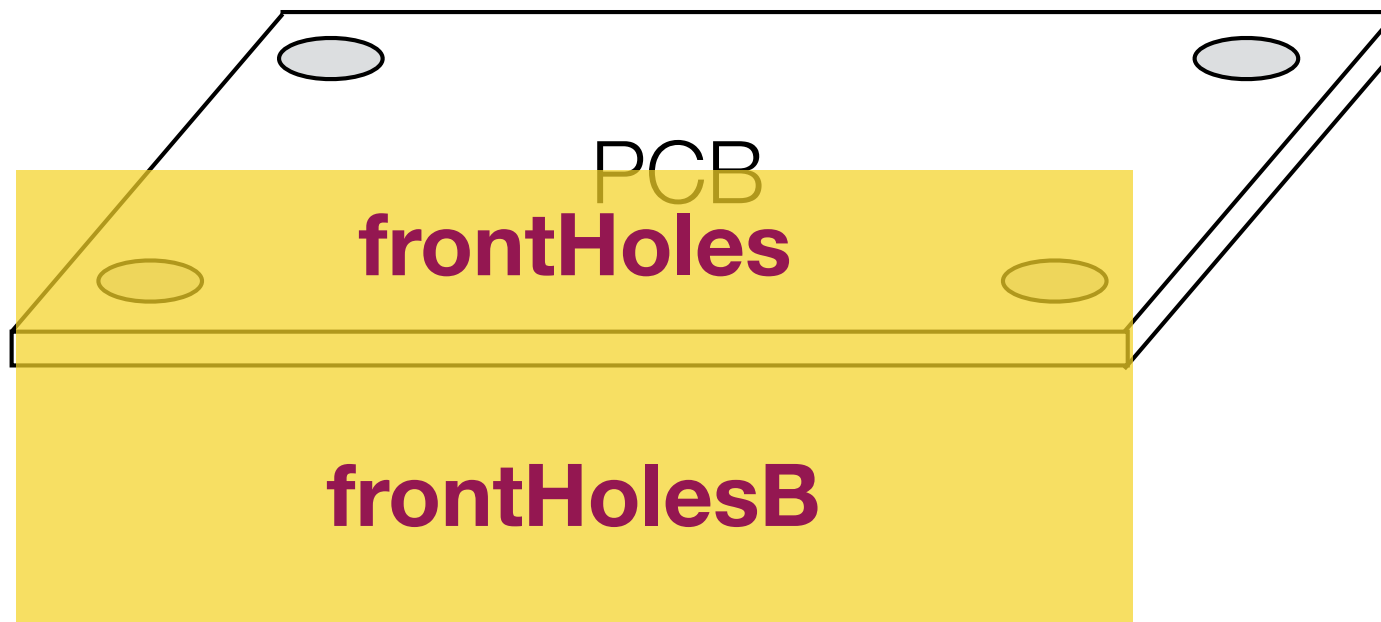
padding

- Distance between PCB and side walls



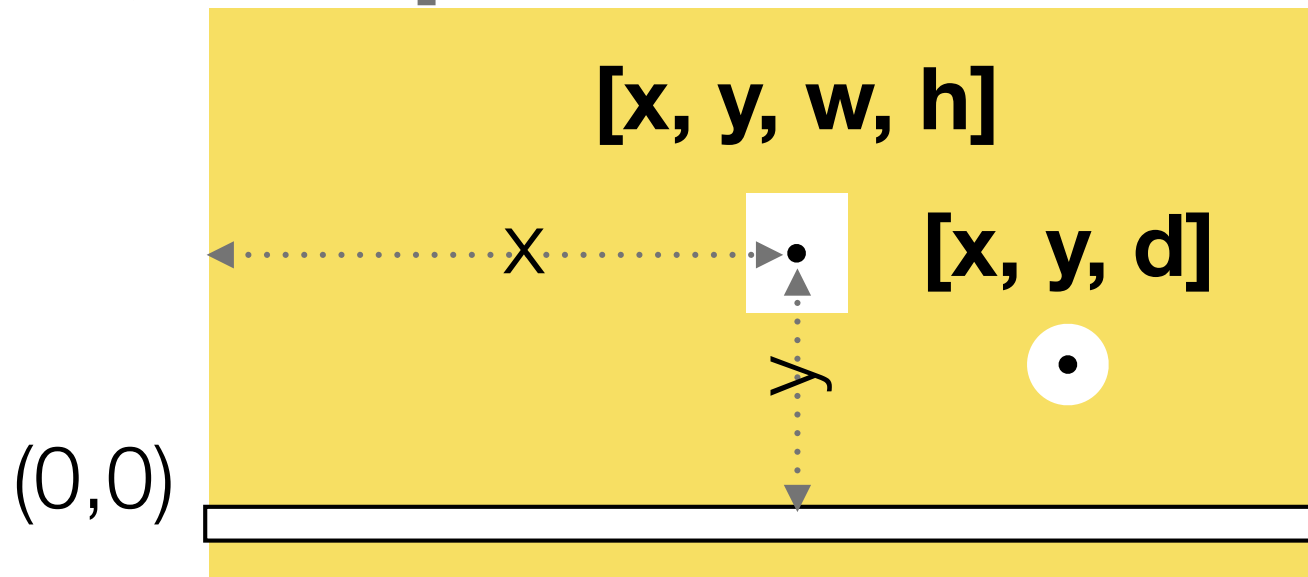
Front and holes

- **2 parts: over the PCB and under the PCB**



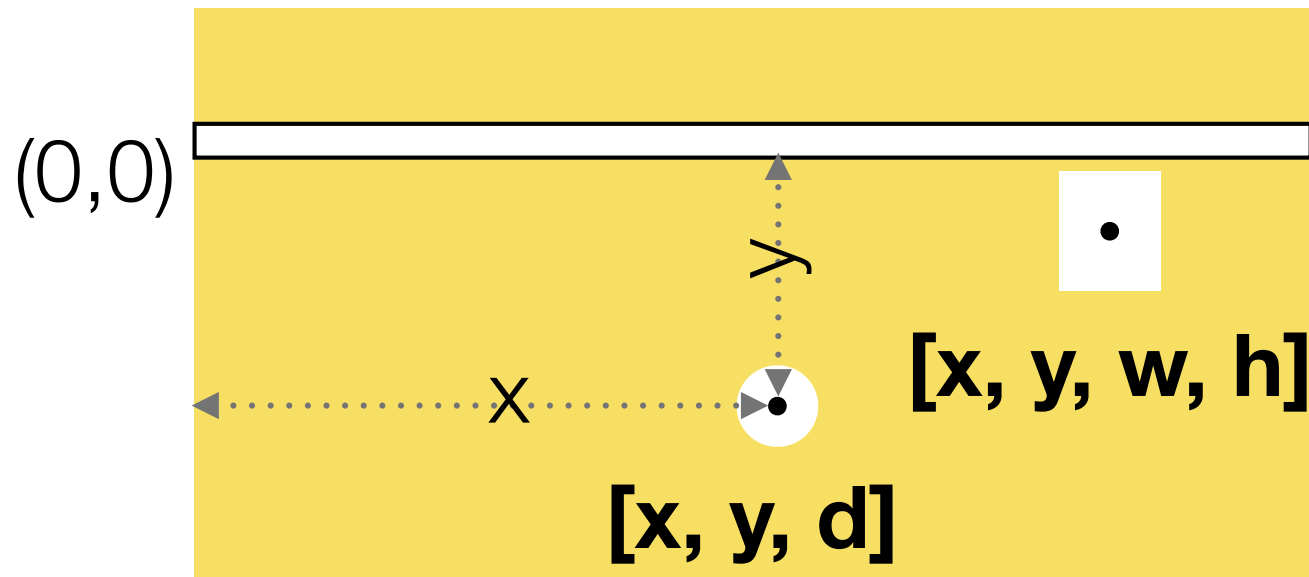
frontHoles

- $[x, y, w, h]$: centered rectangle
- $[x, y, d]$: centered circle of diameter d
- $(0,0)$ is top left of PCB

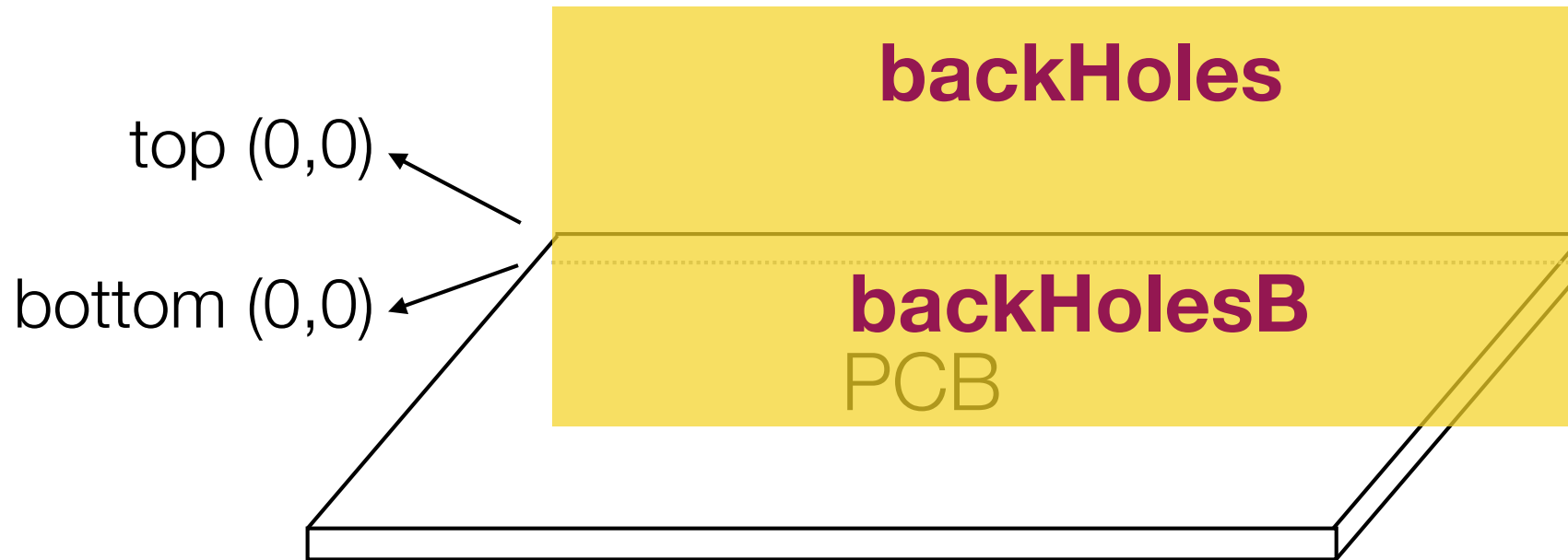


frontHolesB (bottom)

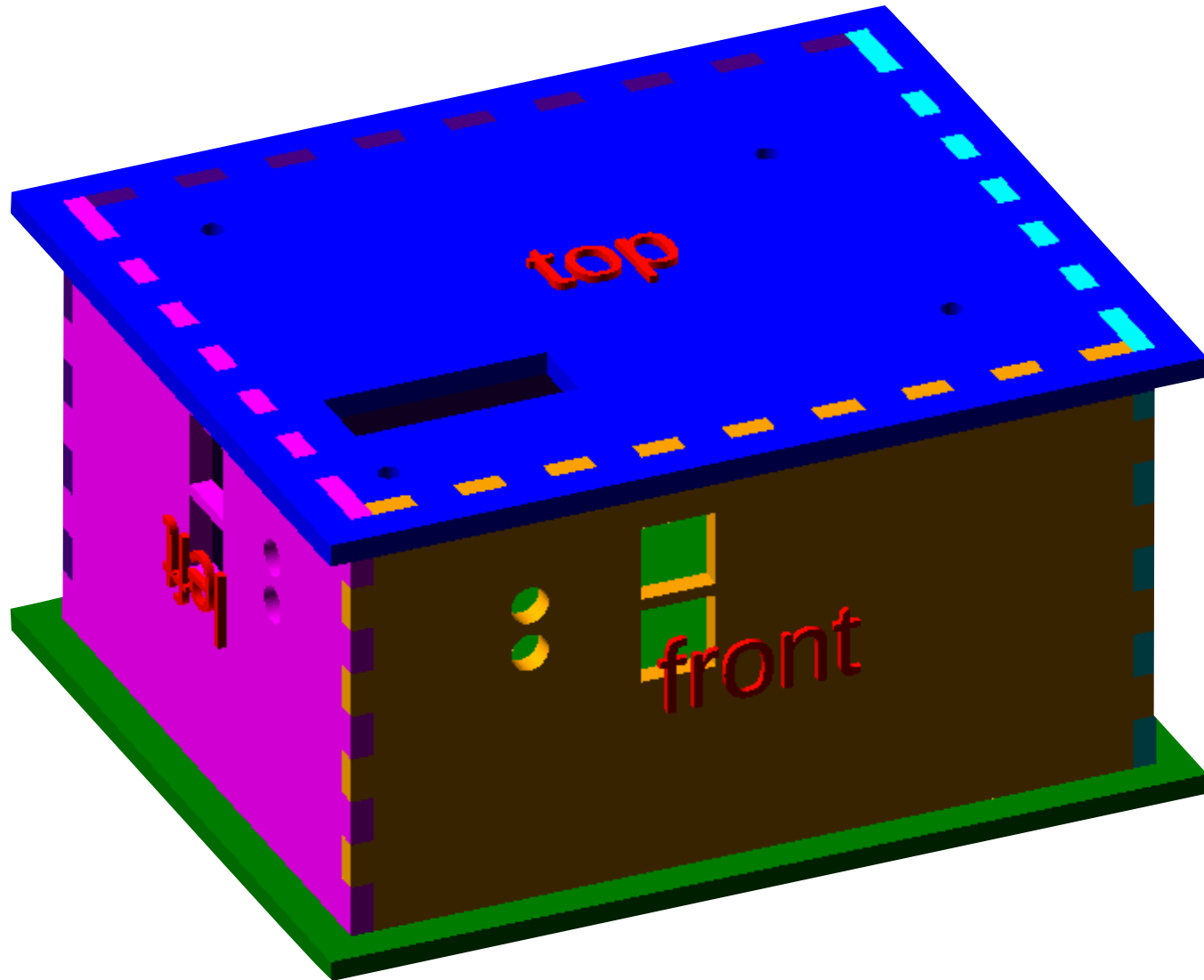
- $[x, y, w, h]$: centered rectangle
- $[x, y, d]$: centered circle of diameter d
- $(0,0)$ is top left of PCB
- $y > 0$!



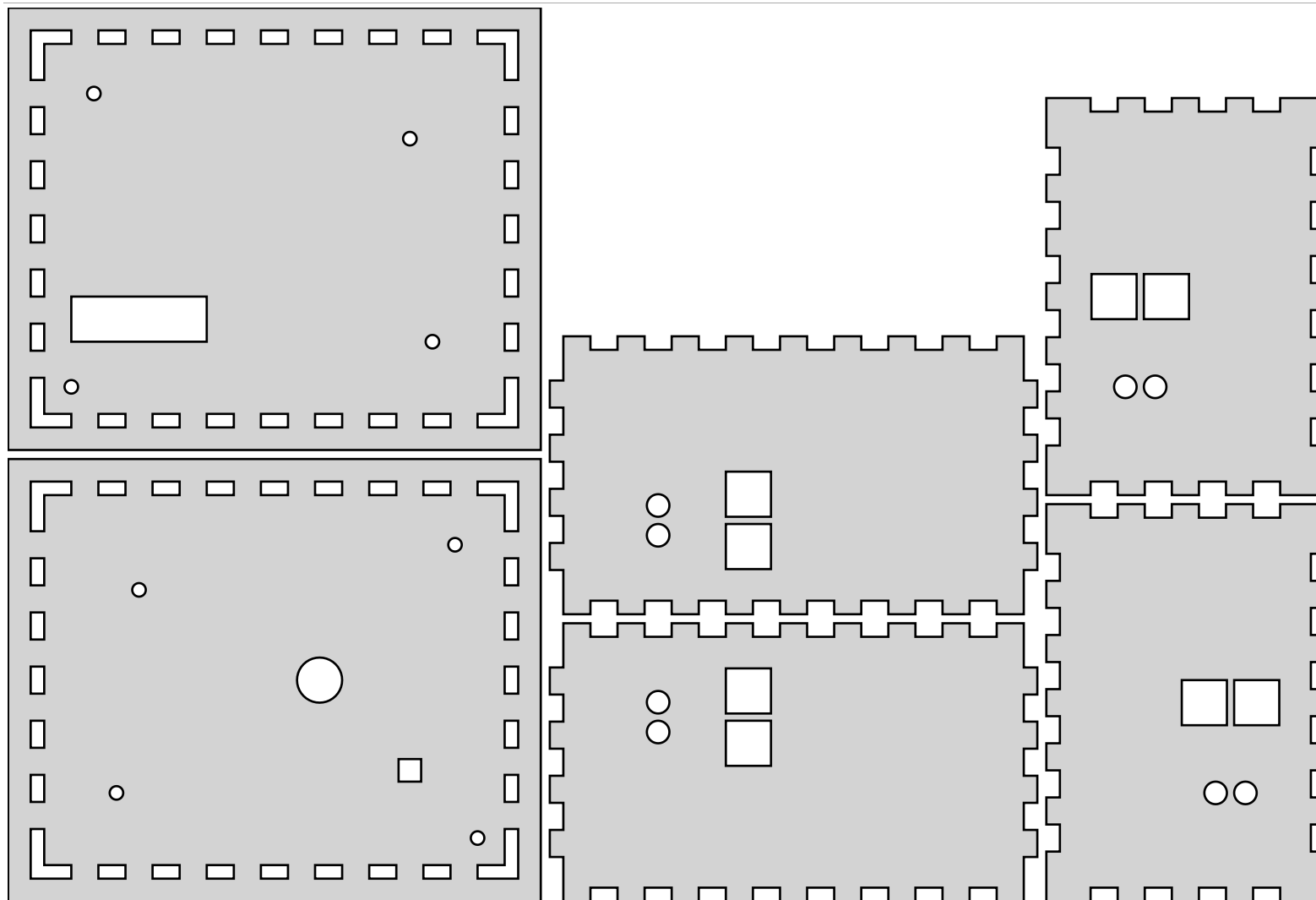
Back



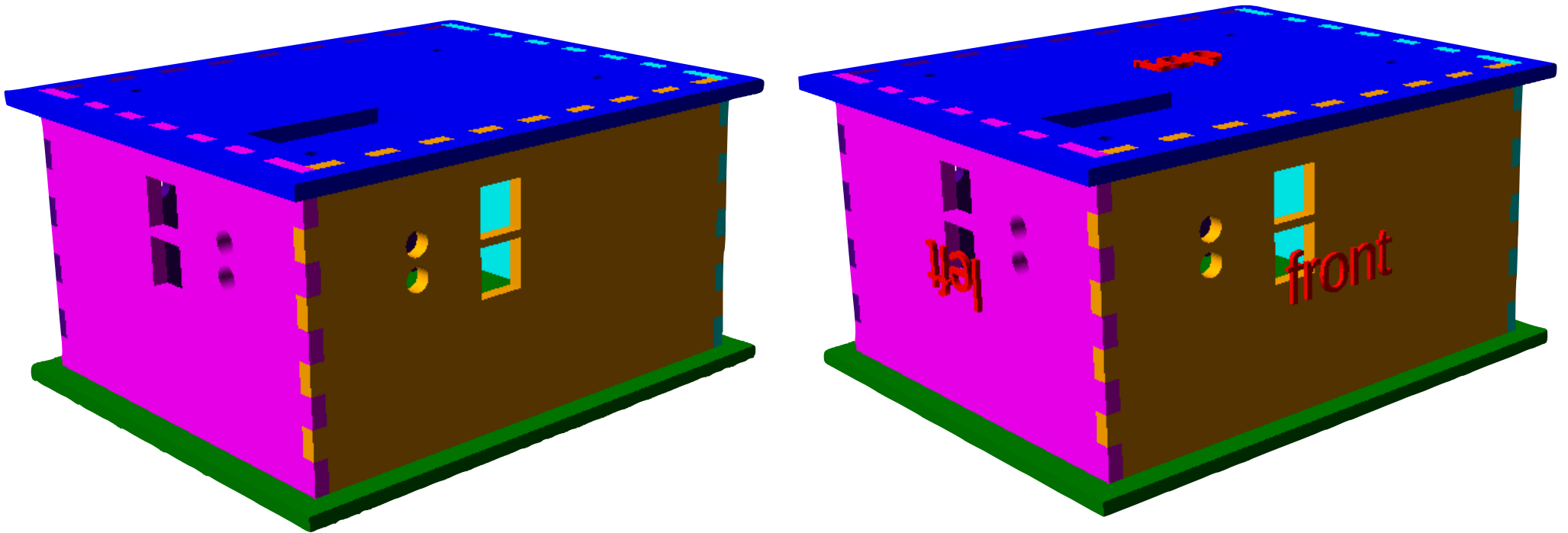
3d=true



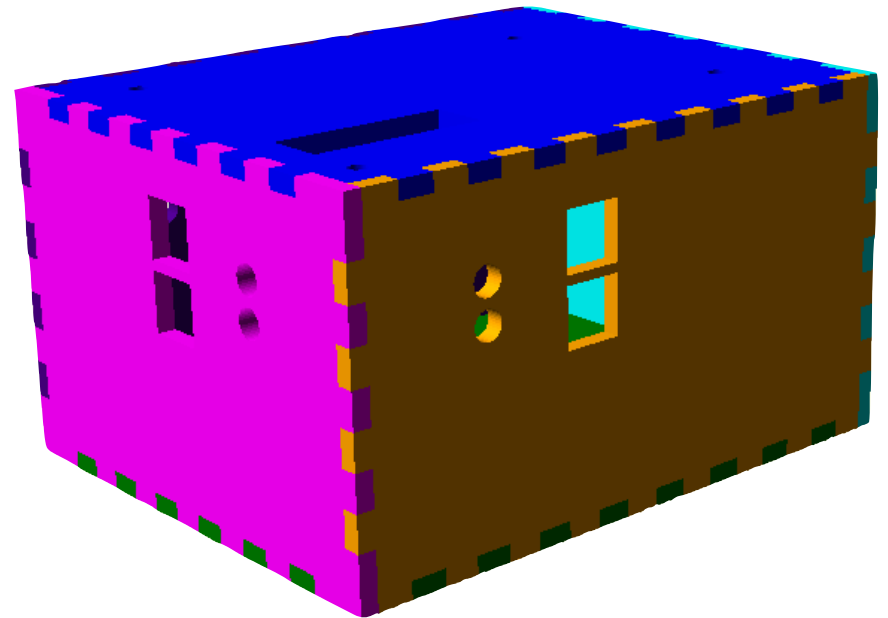
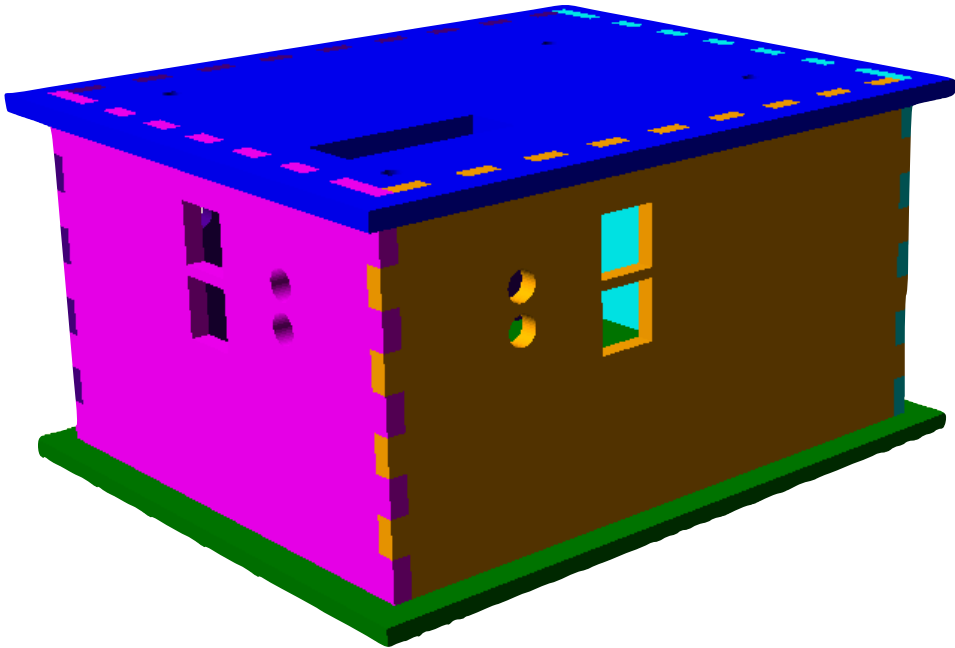
3d=false



showLabels=false / true



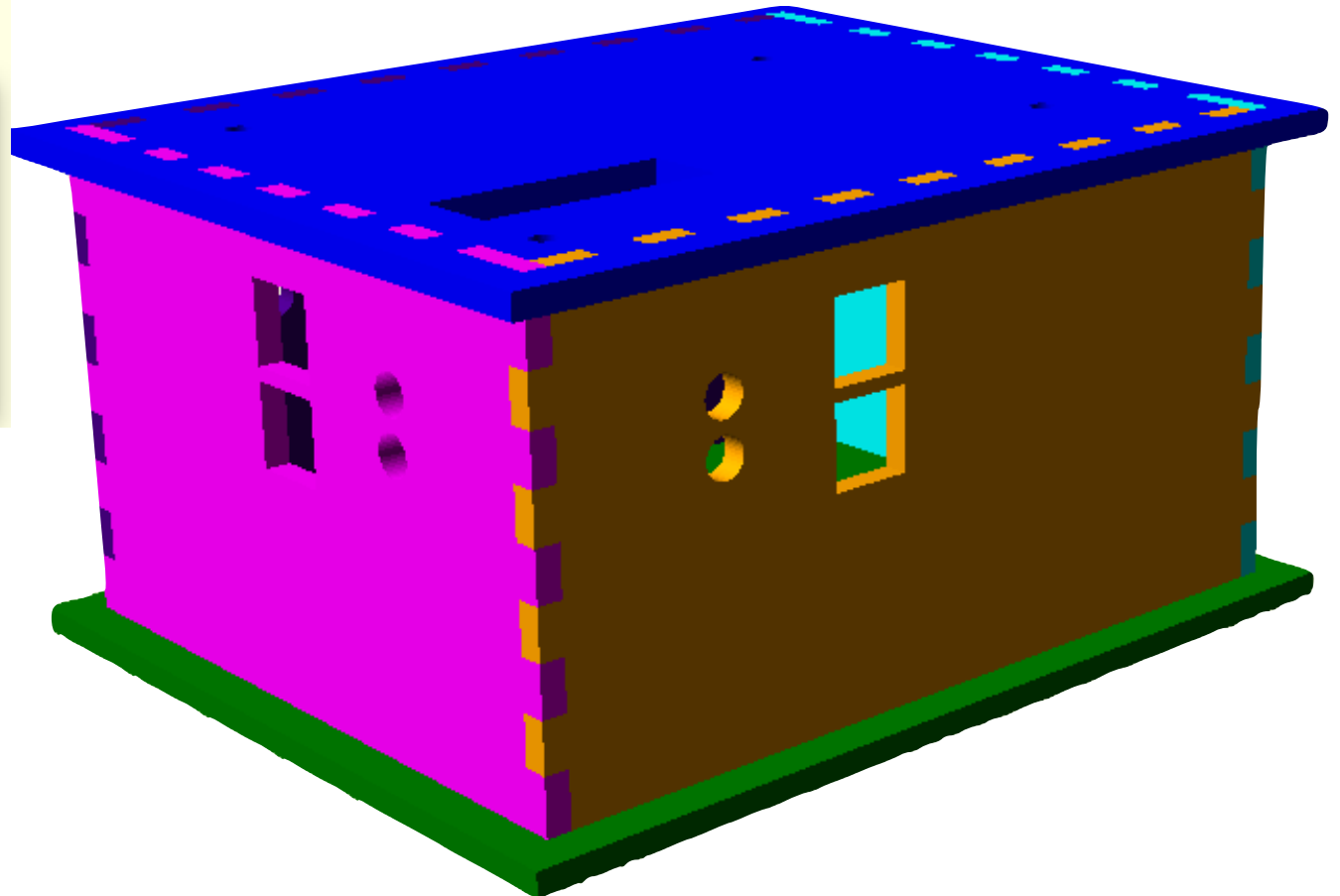
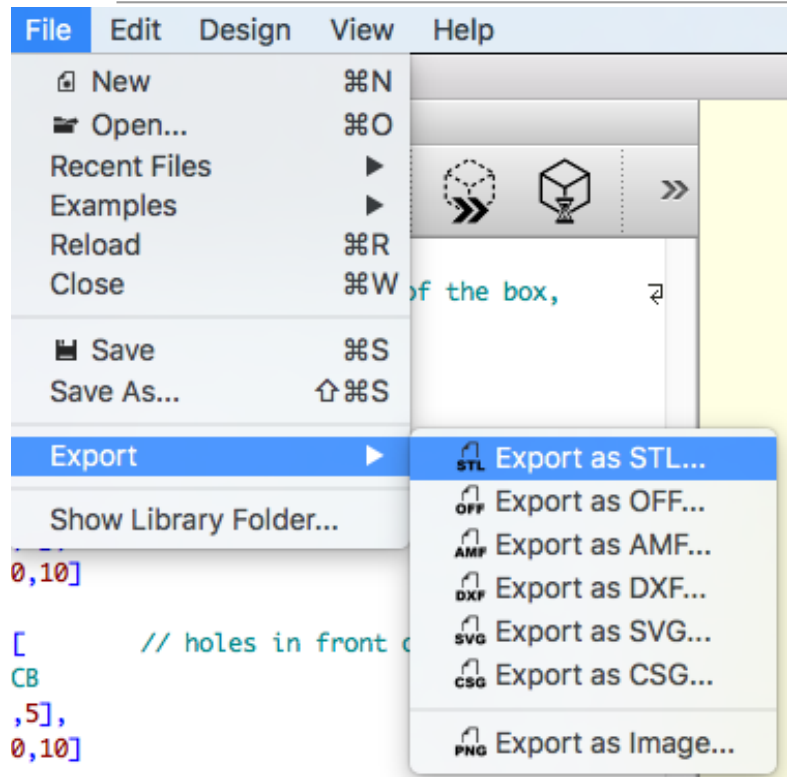
extend=10 / 0



Exportation



export STL for 3D printing



export DXF for laser cutting

