Quick Usage

Introduction

Download the ZIP file and extract to a location. Copy the *Example JSON file* below and save it as *test.json* using a simple text editor. To keep the things simple, save it at the same location as the executable.

To create your own JSON file, use our online visual box designer or JSON Creator or refer to MIDILLI JSON Definition document to create your own from scratch.

Example JSON file

The following file generates all six sides for *MyPart*, placing one hole and one rectangle cutout on the *Top* side. The top size of the box is 5x5 cm and the components are placed at (x = 1, y = 1) and (x = 3, y = 3) respectively. The visible sizes of the components are the same as drill sizes.

```
{
□"Generic": {
□□"width": 5.0,
□□"length": 5.0
□},
□"MyPart_Top": {
□□"myRoundComponent#1": {
□□□"location_x": 1,
□□□"location_y": 1,
□□□"drill_diameter": 1,
□□□"call_name": "Hello",
            "visible_diameter": 1,
□□□"rotation": 0
□□},
□□"myRectangleComponent#1": {
□□□"location_x": 3,
```

```
□□□"location_y": 3,
□□□"drill_width": 2,
□□□"drill_length": 1,
□□□"call_name": "MIDILLI",
□□□"visible_width" : 2,
□□□"visible_length" : 1,
□□□"rotation": 0
□□}
□},
□"MyPart_Bottom": {

□},
□"MyPart_Back": {
□□
□},
□"MyPart_Front": {

□},
□"MyPart_Left": {

□},
□"MyPart_Right": {

□}
}
```

Depending on the command-line options, the other sides of the part will be created using different sizing. Read *Coordinate system and effect of sizing parameters* for more on different results of the arguments.

> **Note**: JSON syntax is very strict. Ensure that the last line before each '}' does **not** end with a comma, while all other lines **should**. Use an online validation tool to confirm correctness.

> **Note**: Use dot (.) if working with decimal numbers to separate the integer part.

Command line

Assuming that the JSON file is stored at the same location as the executable file, open a command window (Command Prompt, or PowerShell), then execute the following command:

Note: The following command requires installation of the free and open-source OpenSCAD software.

```
.\STLGenerator.exe --json-file .\test.json --output-directory .
 --material-thickness 3 --box-height-3d 30 --single-part --separate-top
```

You will be provided with an output showing the current settings as following:

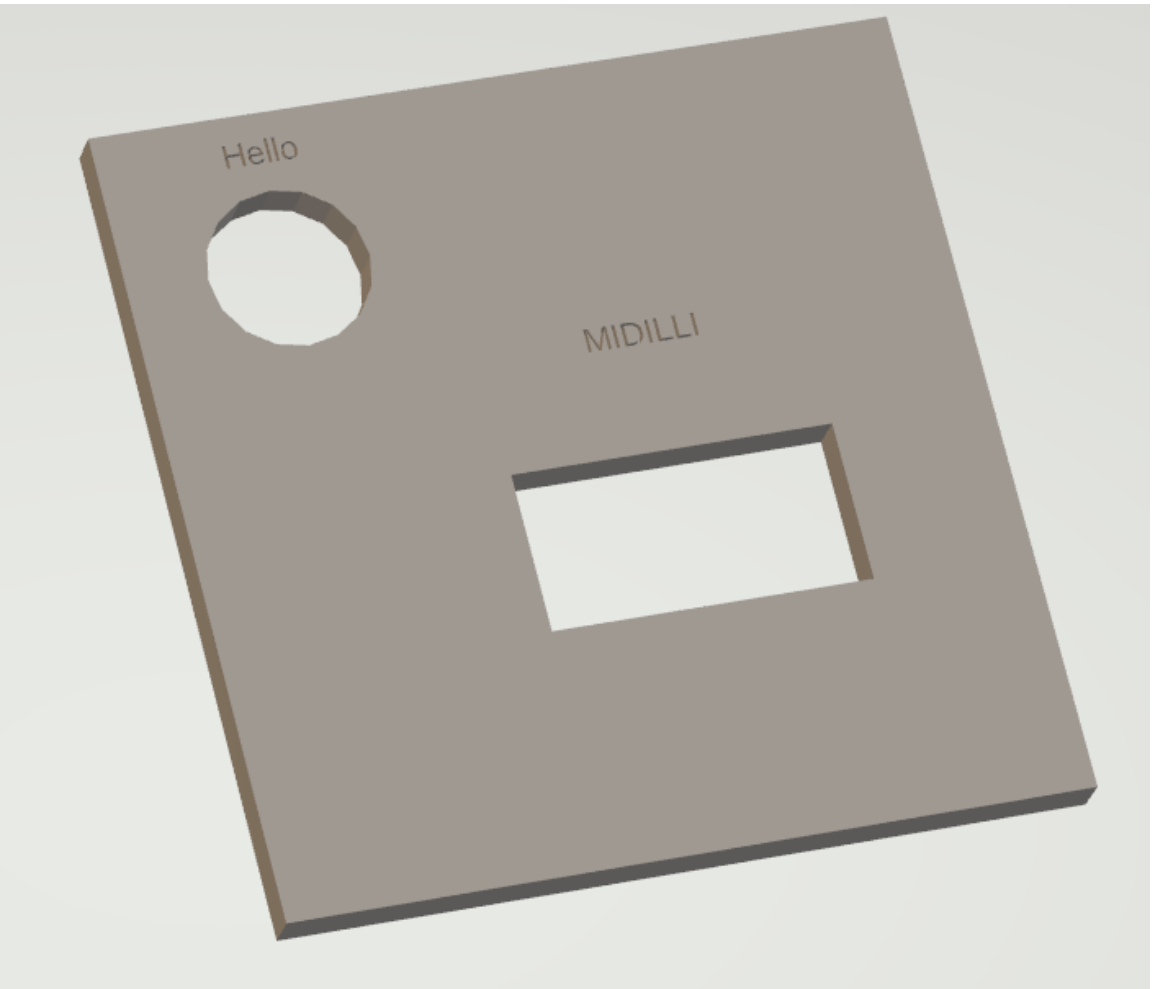
```
~~~~~ Settings ~~~~~
Single part: Yes
Separate top: Yes
Separate bottom: No
Separate back: No
Separate front: No
Separate left: No
Separate right: No
Screw diameter: 0 mm
Screw head height: 0 mm
Screw head diameter: 0 mm
Screw extra margin: 0 mm
Outer sizing enabled: No (from JSON)
Finger joints: No
Finger size: 3 mm (default: material thickness)
Finger count: Automatic
Finger clearance: 0 mm
Outer sizing enabled: No
Material thickness: 3 mm
Box height in 3D: 30 mm
Recess depth: 0 mm
Draw text: Yes
Font size: 8 px
```

```
Text depth: 1 mm
OpenSCAD path: C:\\Progra~1\\OpenSCAD\\openscad.exe
Keep OpenSCAD files at the end: No
Create only OpenSCAD files: No
Verbose enabled: No
```

Each setting on the console output can be customized with command line arguments.

Note: Use dot (.) if working with decimal numbers to separate the integer part.

After completion, 6 files starting with *MyPart_* and ending with *.stl*, *test_merged.stl*, and *MyPart_Top.scad* file will be visible under *test* directory. Opening *MyPart_Top.stl* and *test_merged.stl* in a program which can view STL files should display results similar to the following:



MyPart_Top.stl: Separated top with components of the example project.



test_merged.stl: Rest of the sides are combined as a single part.

From this point, you can use your slicer software to start printing.

Hint

Tip: If you want the overall size to be exactly as you specify in the JSON file, use the --outer-sizing option. If you want the usable inner area to be the same as you define, leave it as default.

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