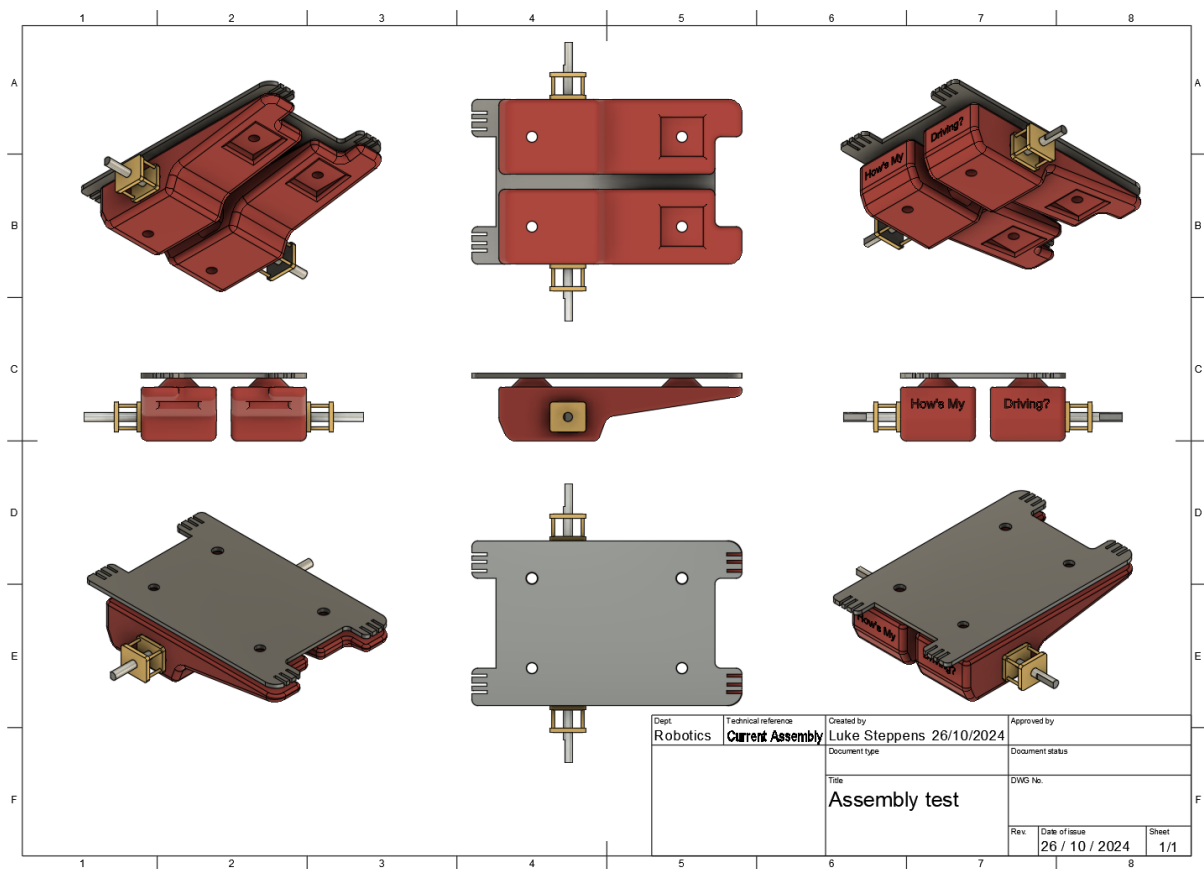


# Workshop 5 - CAD 2 - 3D Printing

Friday 25th October

We were asked to carry on working on our motor mounts and overall assembly covering all the parts we have made.



### Assembly test v7.f3z

We were then asked to start thinking of a shell and pivot point we could design for the mice.

Next we moved on to setting up our laptops to work with the laboratory 3D Printers using a program called Orcaslicer.

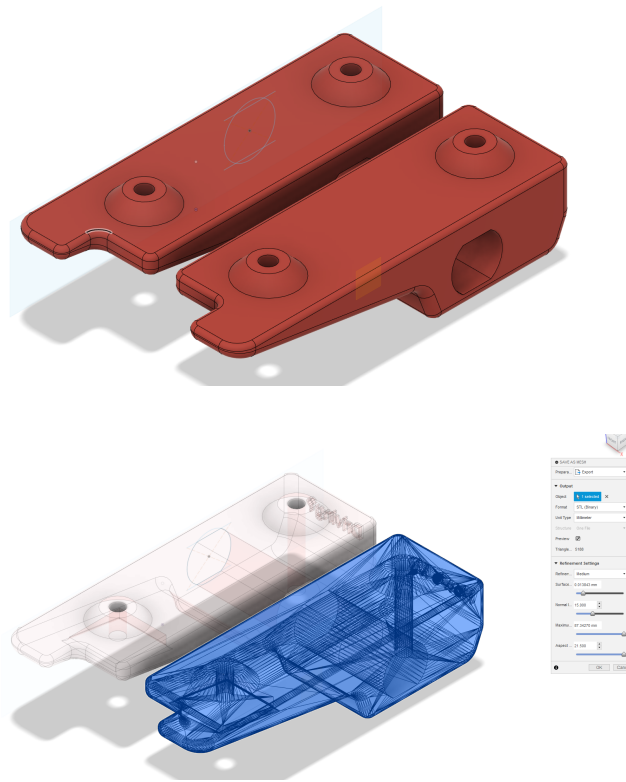
This is the official build not to be confused with the OrcaSlicer website which is not.

<https://github.com/SoftFever/OrcaSlicer>

We moved onto the device setup using this guide. 4 printers were added in total



My motor mounts had a left and write side so i chose to just print one half. First we save as mesh and we can choose the preview option where the refinement option can increase or decrease the detail by increasing or decreasing the polygons.



Going back to Orcaslicer we learned of several options such as supports and strength. With supports set to tree it uses less filament and doesn't really have a downside, then with strength our sparse infill density dictates how densely the object will be filled. The micromouse being lightweight I felt no need to make it more dense. Maybe more weight will be helpful, but that can be determined after testing.

Support

Enable support

↺

✓

Type

↺

Tree(auto)

Threshold angle

↺

30

°

On build plate only

☐

Filament for Supports

Support/raft base

↺

Default

Support/raft interface

↺

Default

Quality

Strength

Support

Others

Walls

Wall loops

↺

2

↻

Top/bottom shells

Top surface pattern

↺

Monotonic ...

↻

Top shell layers

↺

4

↻

layers

Top shell thickness

↺

0.8

↻

mm

Bottom surface pattern

↺

Monotonic

↻

Bottom shell layers

↺

4

↻

layers

Bottom shell thickness

↺

0

↻

mm

Infill

Sparse infill density

↺

15

↻

%

Sparse infill pattern

↺

Cross Hatch

↻

Internal solid infill pattern

↺

Monotonic

↻

Within the preview mode of OrcaSlicer we can look at how densely packed the infill is by using the slider on the right.

The right hand side also shows estimated time and amount of filament used.

[https://prod-files-secure.s3.us-west-2.amazonaws.com/6d327d71-a800-4bb7-a305-2462de459e8c/c49829ba-dc98-4af1-a961-952e3096e89a/IMG\\_3064.mqv](https://prod-files-secure.s3.us-west-2.amazonaws.com/6d327d71-a800-4bb7-a305-2462de459e8c/c49829ba-dc98-4af1-a961-952e3096e89a/IMG_3064.mqv)

With Everything ready went across to the laboratory and printed our motor mounts.

[COMP207-W5-WKSP-CAD\\_2\\_3D\\_PRINTING.pdf](#)