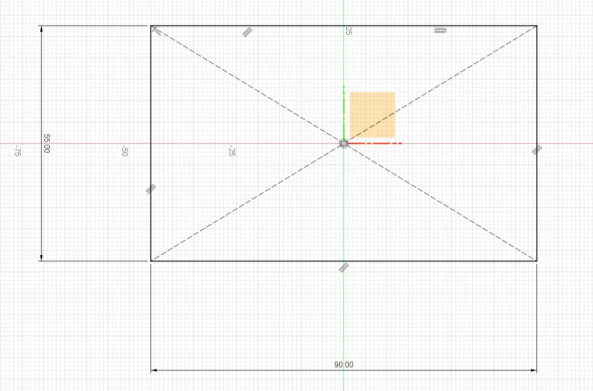
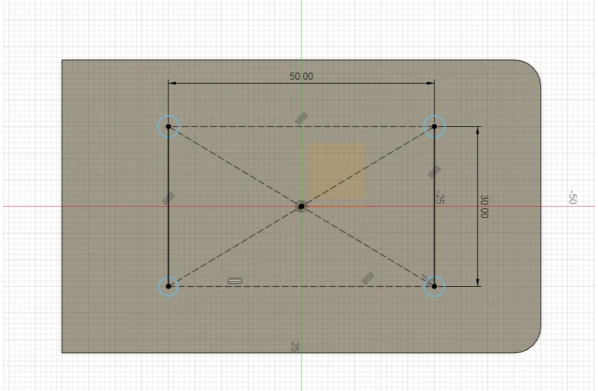
PCB Base - CAD - Fusion 360

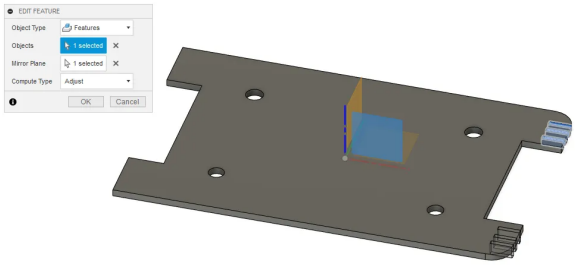
CAD Modelling in Fusion 360: Initially, we were taught how to create a base for our PCB. This was to ensure all of our components would fit inside the confines and allowing for space to rearrange them and allow for wiring and maintanence.

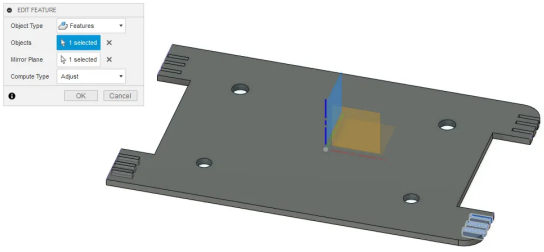
First the basic dimensions 90mm by 55mm were made with the centre rectangle tool. Followed by extruding the rectangle to 1.6mm which is the thinkness of the PCB. Next the front corners were filleted to 5mm to give it a smooth edge, and mounting holes of 3.6mm were placed 50mm away from each other horizontally and 30mm vertically apart. These were then extruded to the same thickness of 1.6mm.



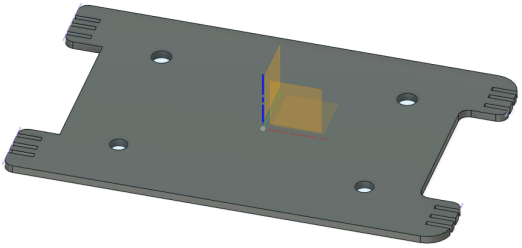


With the basic design ready we were allowed to be creative, so I decided using the tools above and mirroring I would make the mouse more mouse-like. A set of small rectangles were placed on a new sketch placed on the surface of the PCB body and were then extruded making one singular paw and then I used the mirror function.

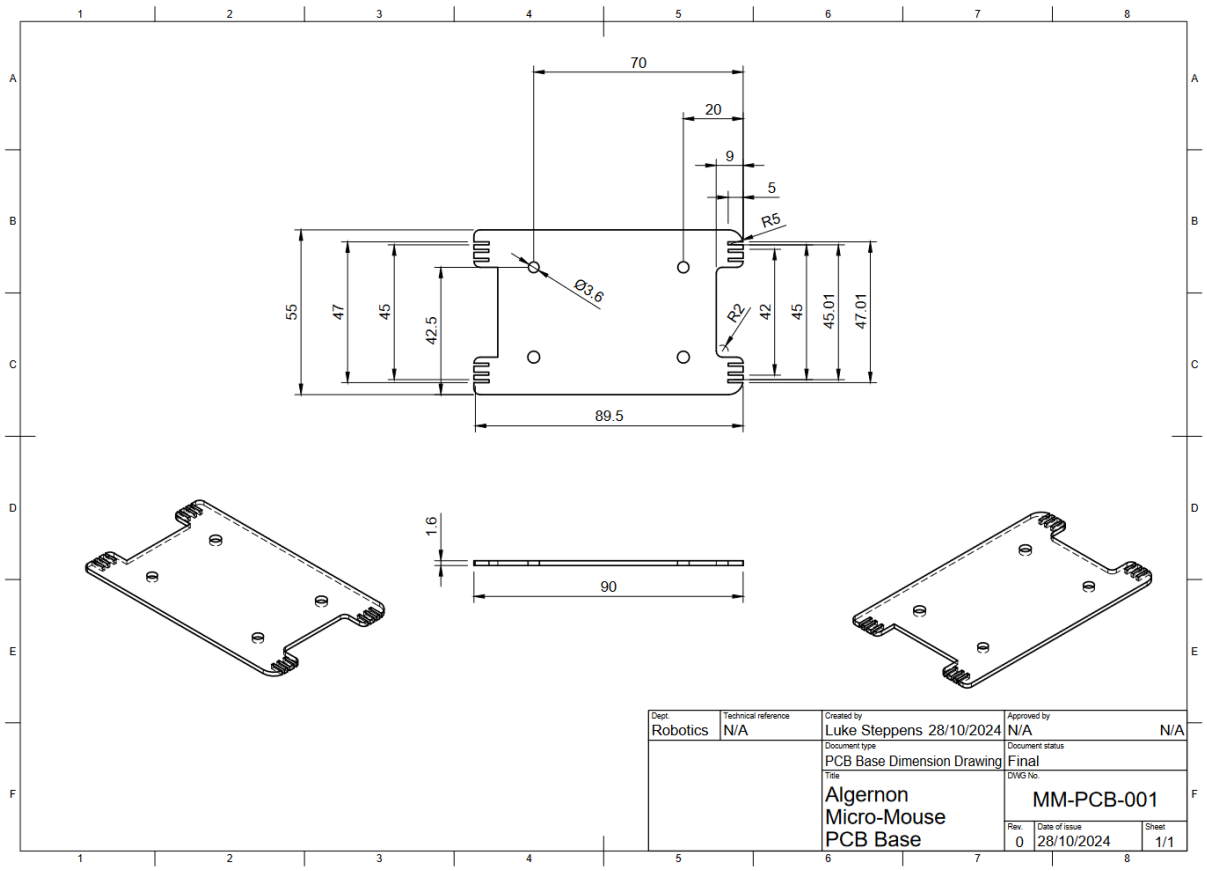




First I mirrored across the X axis to have both the front paws identical and then across the Y axis which copied both across making all four the same dimensions. I made a shallower fillets on the back paws. Alongside a couple basic rectangular extrudes at the front and back side to make the paws stick out.



This was made using the drawing option and using the projected views and dimensions options.


70
20
9
5
R5
Ø3.6
R2
55
47
45
42.5
42
45
45.01
47.01
89.5
1.6
90
Dept.
Robotics
Technical reference
N/A
Created by
Luke Steppens 28/10/2024
Approved by
N/A
N/A
Document type
PCB Base Dimension Drawing
Document status
Final
Title
Algernon
Micro-Mouse
PCB Base
DWG No.
MM-PCB-001
Rev.
0
Date of issue
28/10/2024
Sheet
1/1

PCB Base.pdf