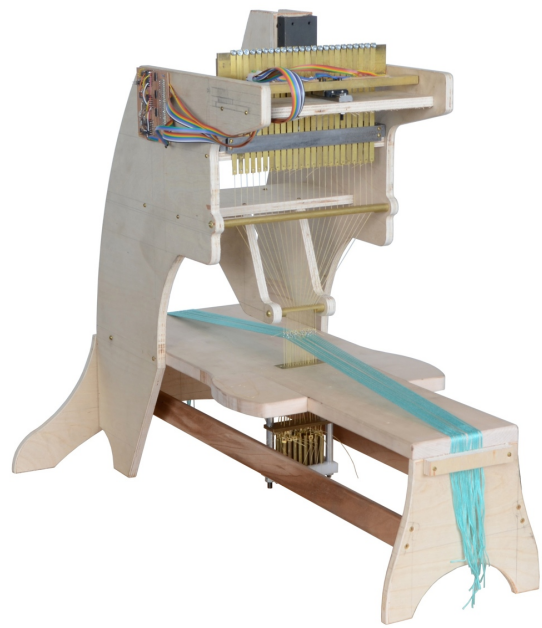
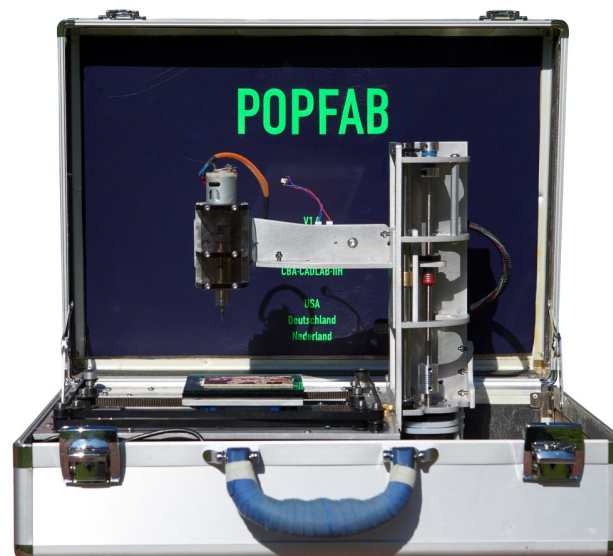
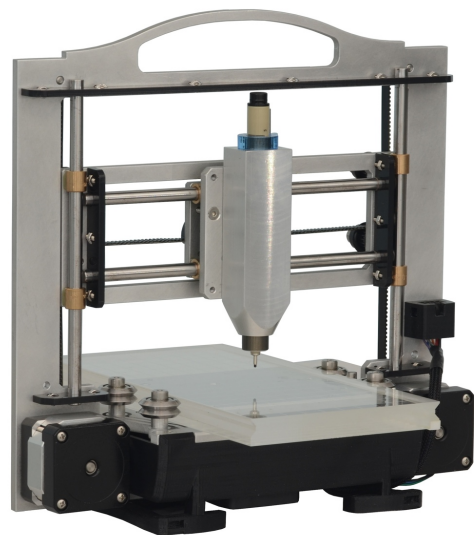


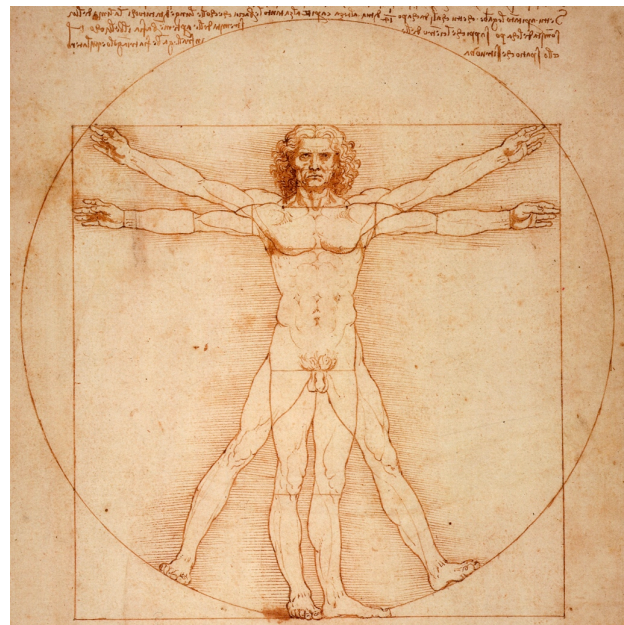
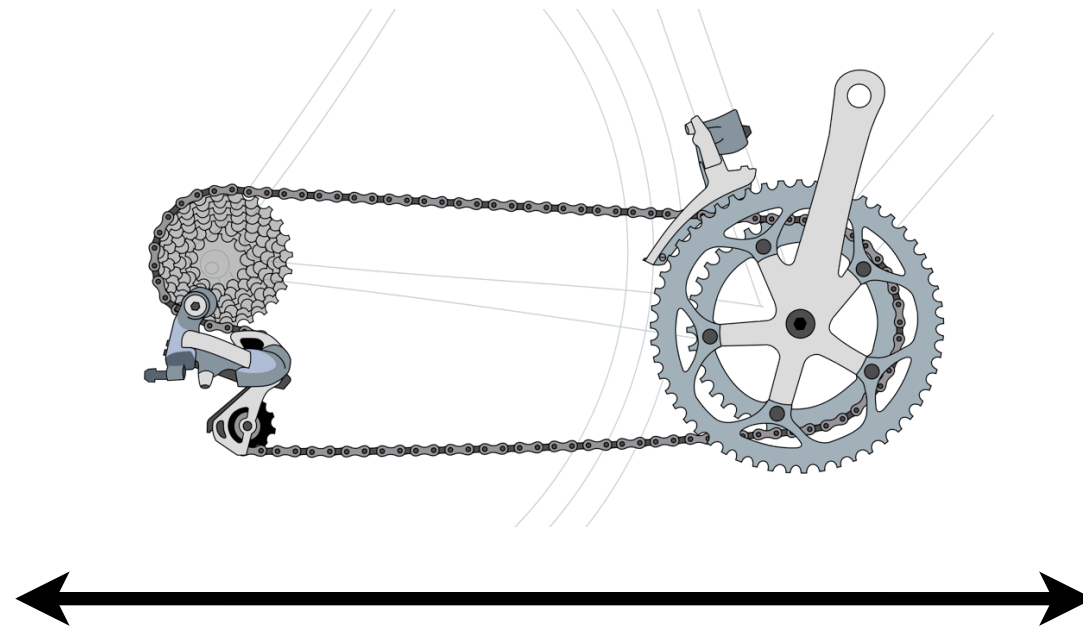
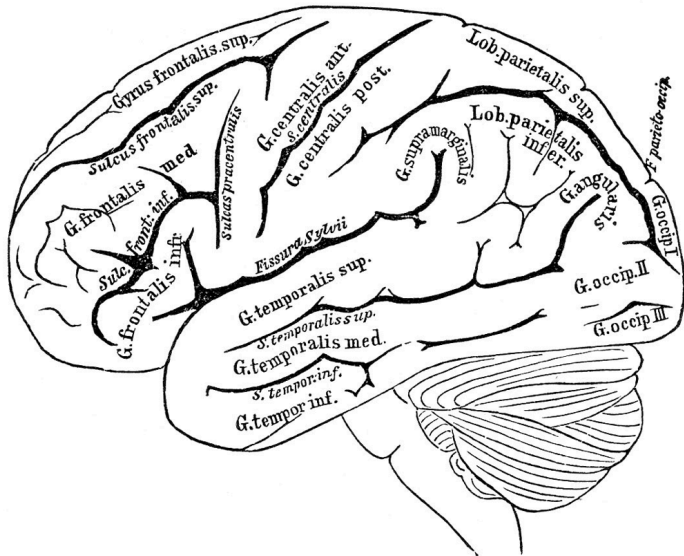


Making Machines That Make

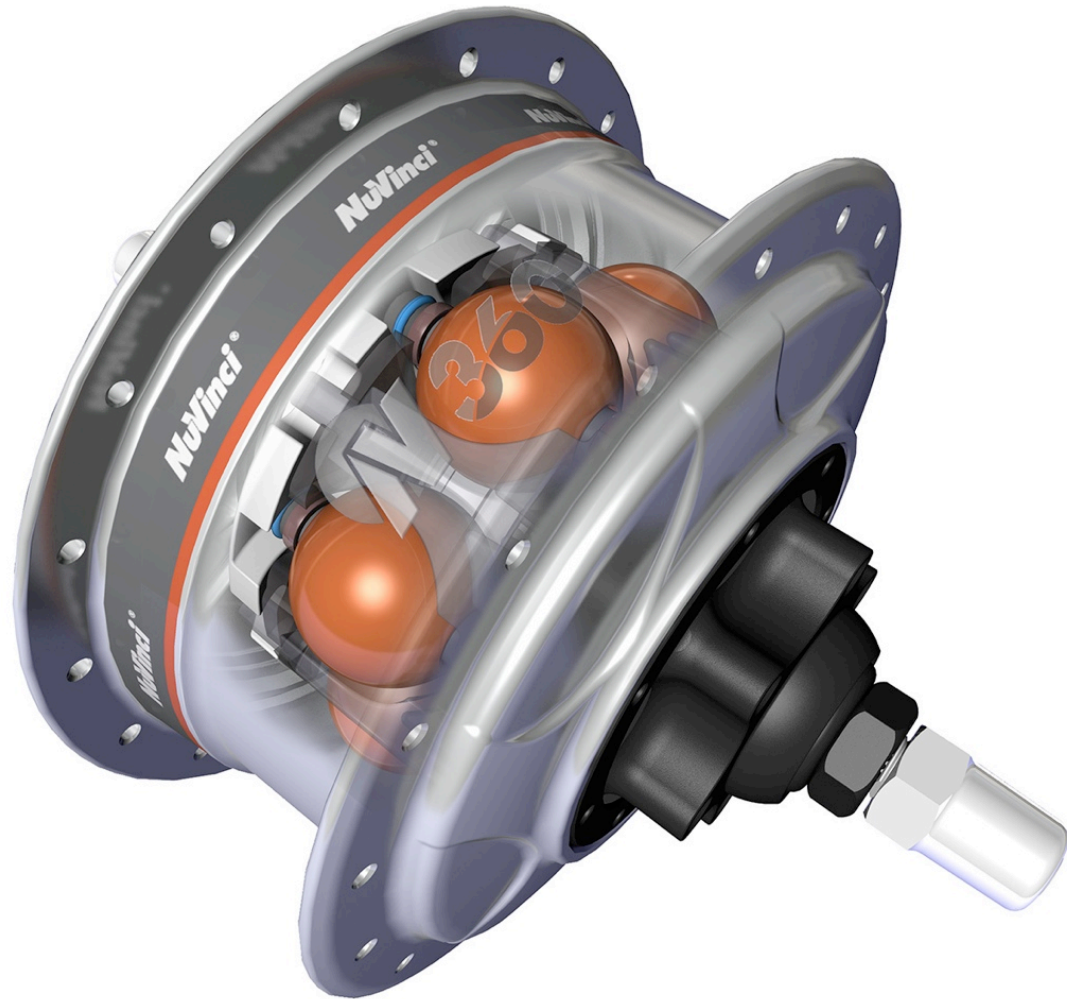
Ilan E. Moyer



Tools Are Transformers...

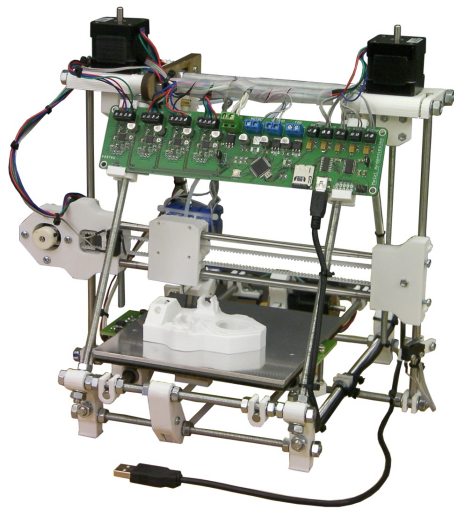


NuVinci Continuously Variable Transmission

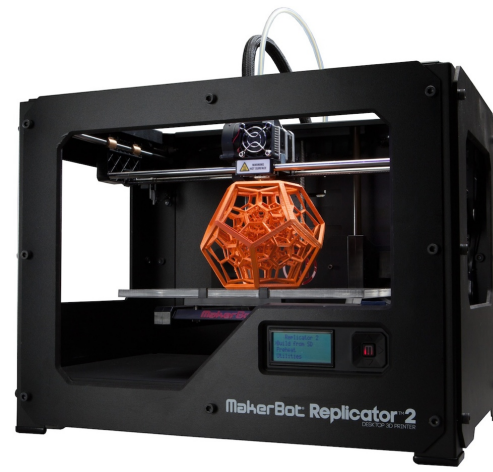


Universal Tool





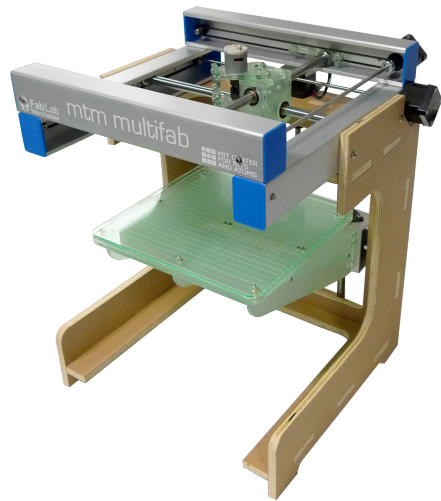
RepRapPro Huxley



Makerbot Replicator 2



Dimension 3D Printer



MTM Multifab



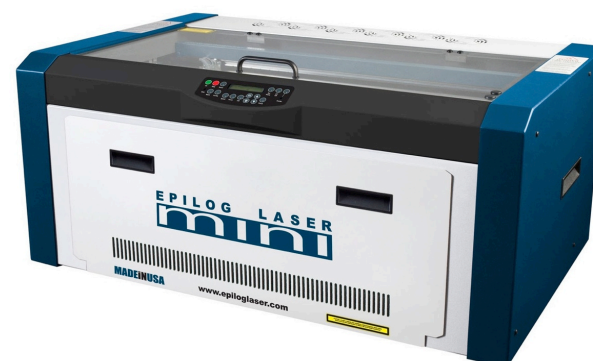
Roland Modela



Haas Mini Mill



Lasersaur

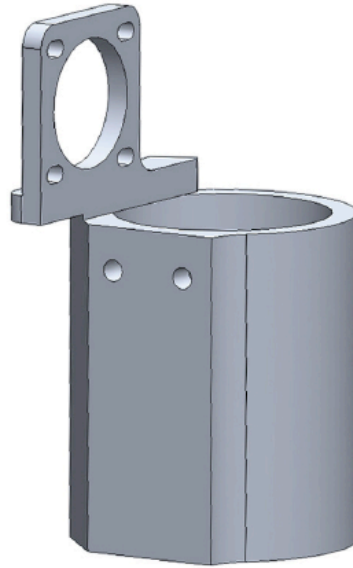
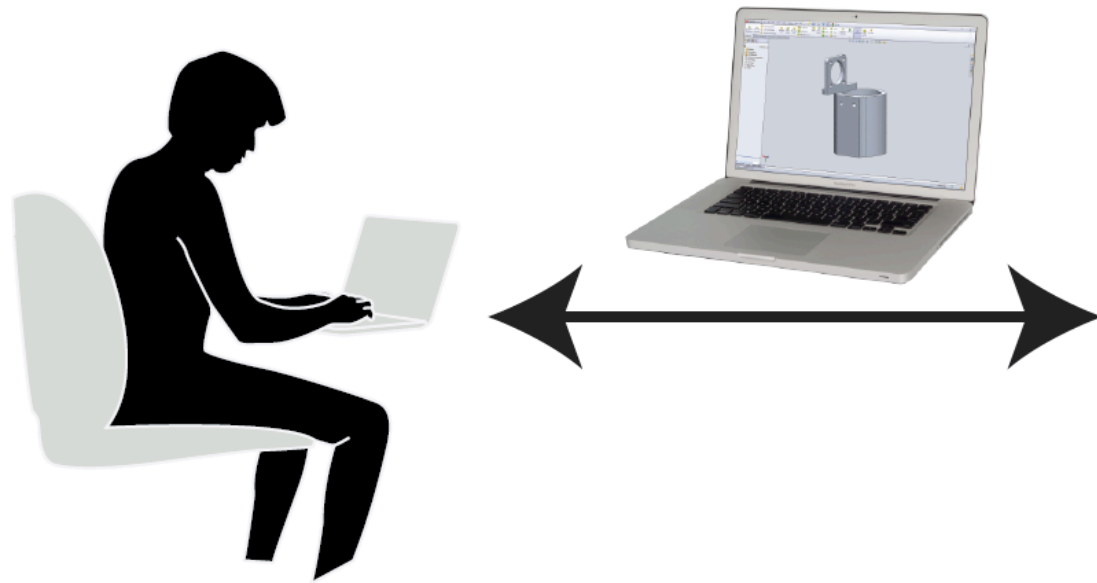


Epilog Laser Cutter

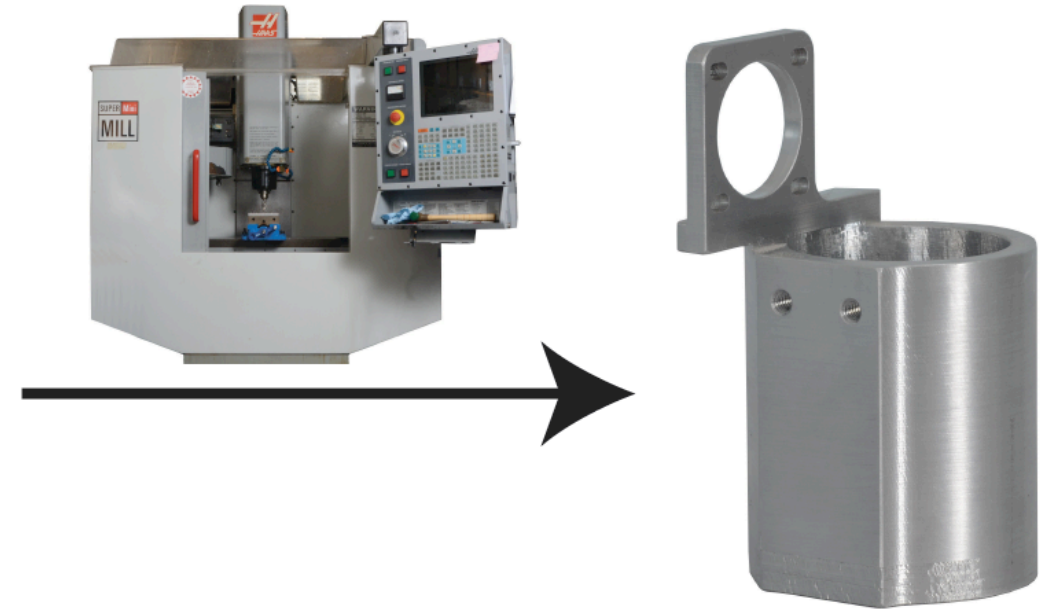


Omax Waterjet

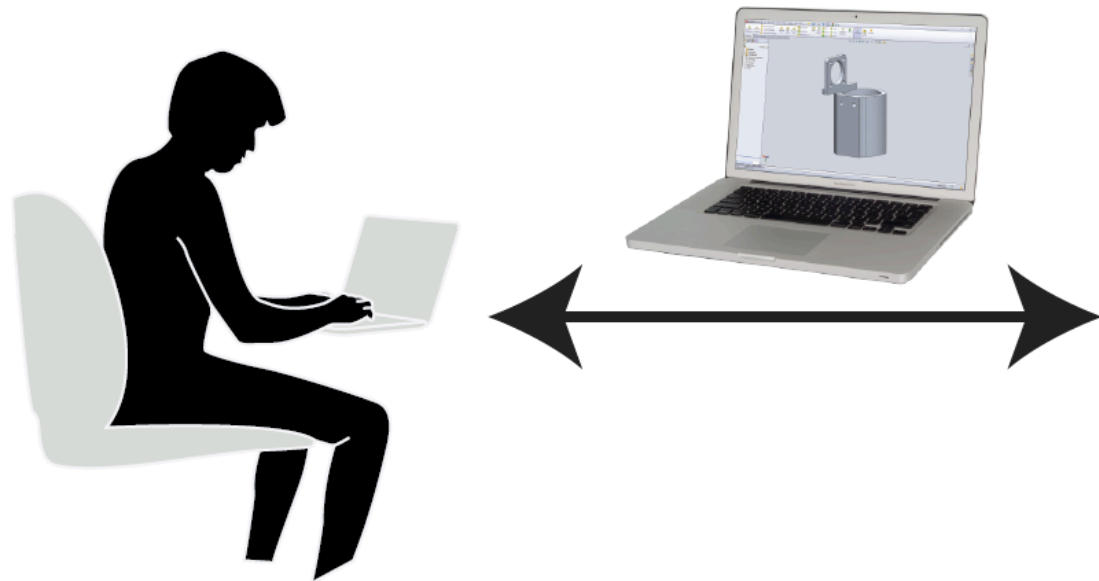
Digital Design



Digital Fabrication

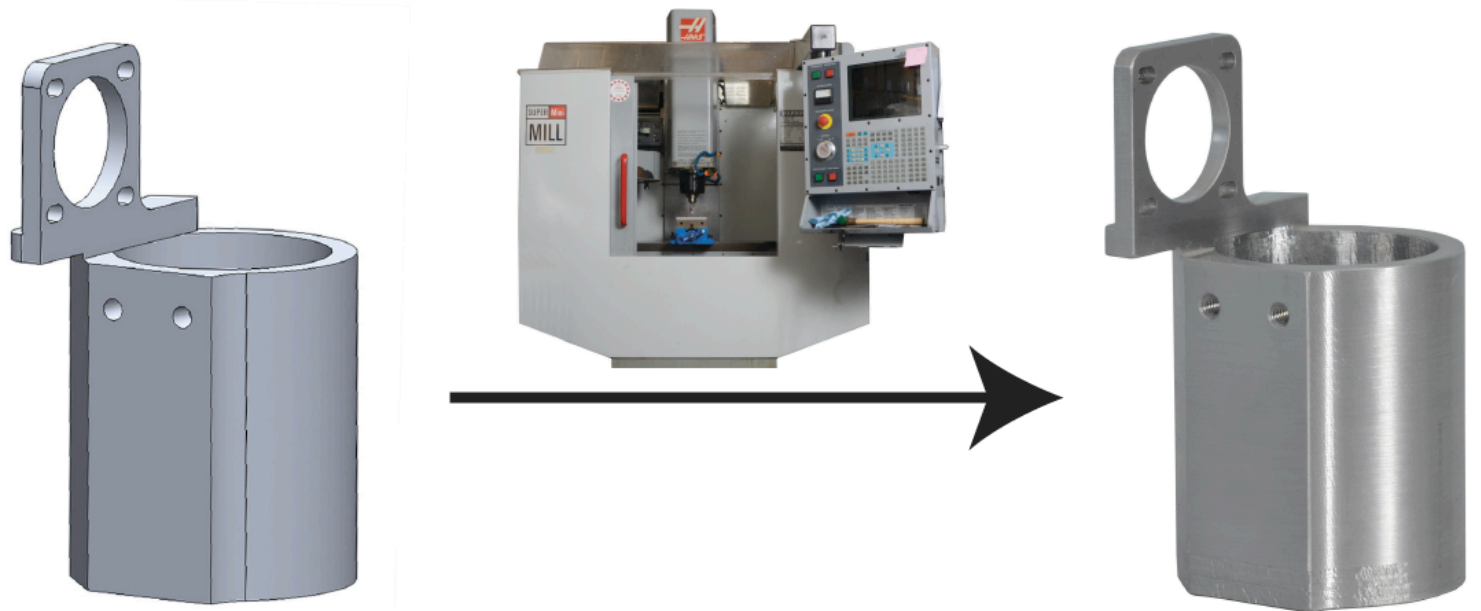


Digital Design



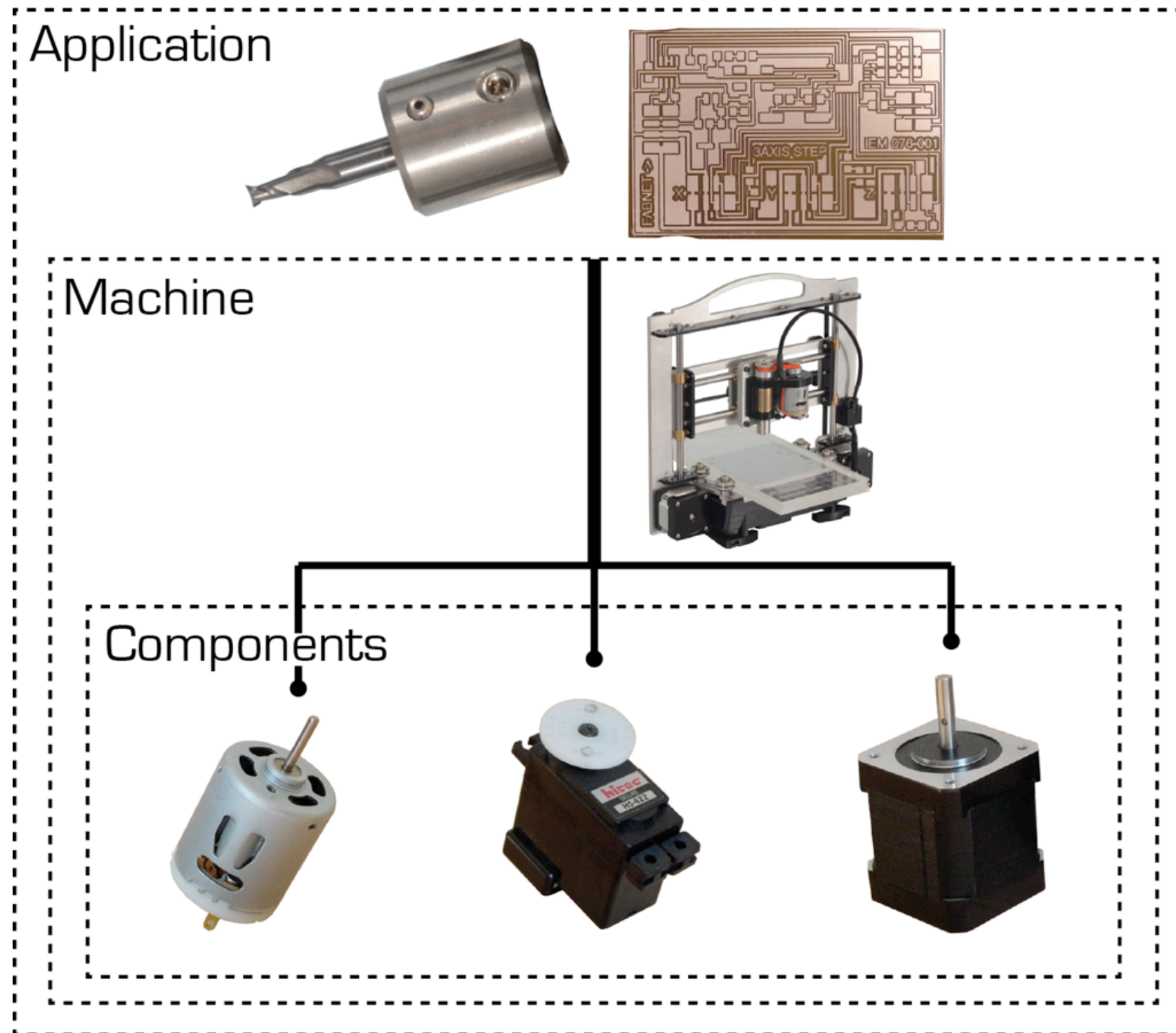
- Ubiquitous computers
- Accessible design tools
- Framework in place for extension of capabilities

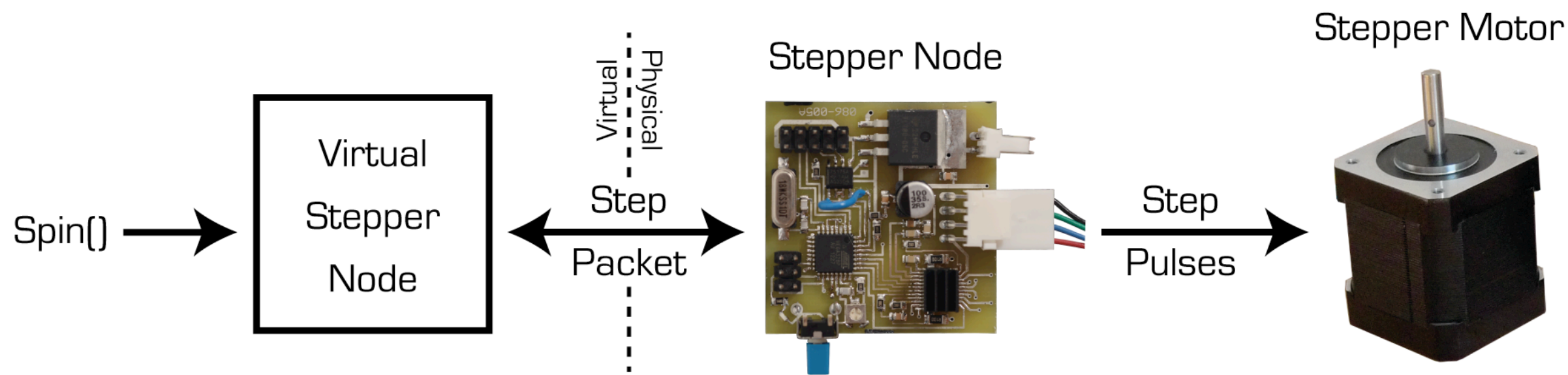
Digital Fabrication

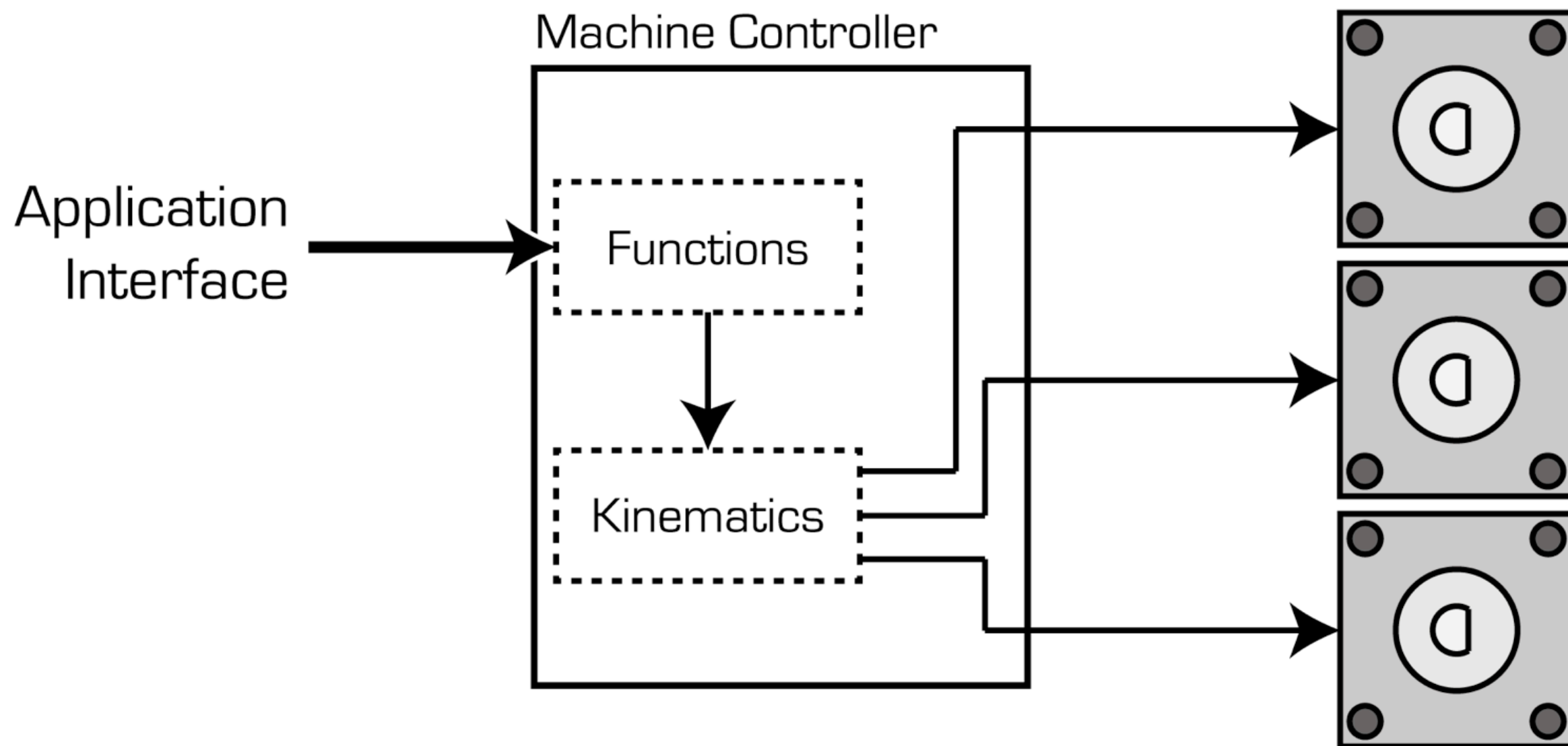


- Scarce and limited toolset
- Generally closed designs
- No existing framework for modular development of new tools by individuals

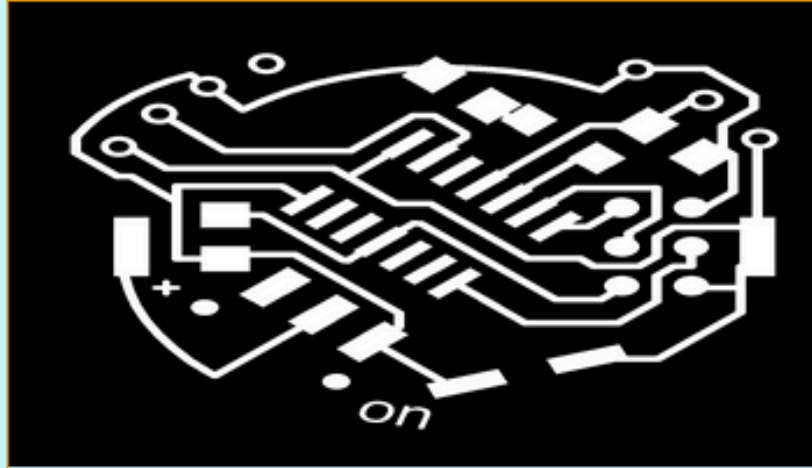
Gestalt: A Framework for Controlling Digital Fabrication Machines





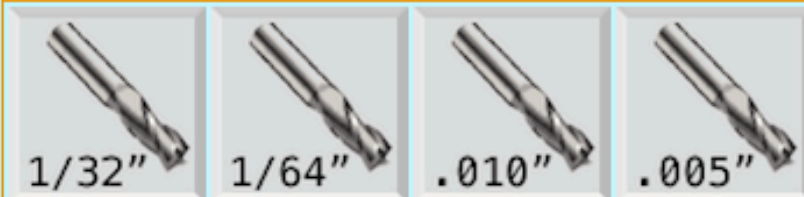


Mill Top Layer Traces



☐ Invert

Contouring



Finishing Diameter: inches

Contour Passes:

Depths

Cutting Depth: inches

Traverse Height: inches

Depth Passes:

Speeds

Plunge Speed: inches/min

Retract Speed: inches/min

Traverse Speed: inches/min

Mill Speed: inches/min

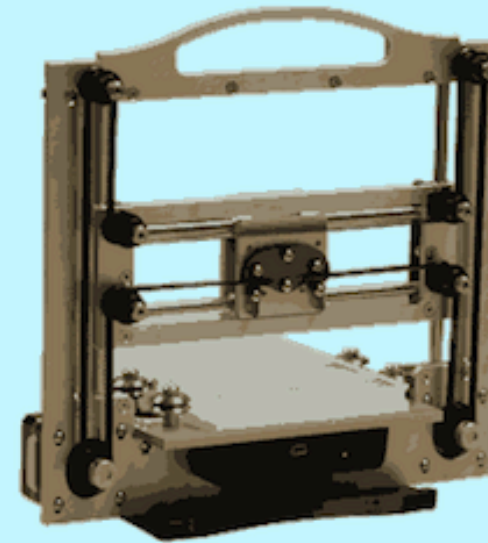
Generate Toolpaths

Output Format:

generate

hello there :-)

Machine Control



X

0.00 mm

zero

Y

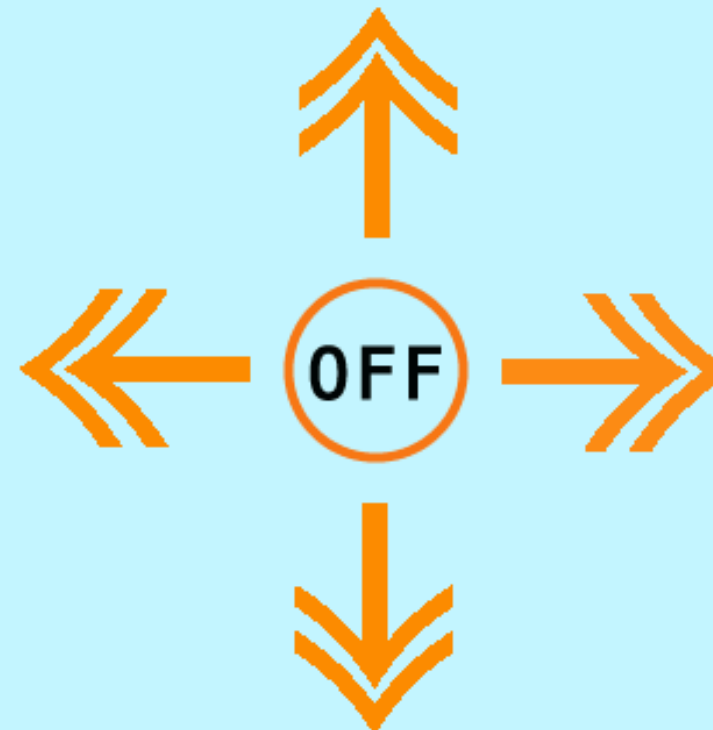
0.00 mm

zero

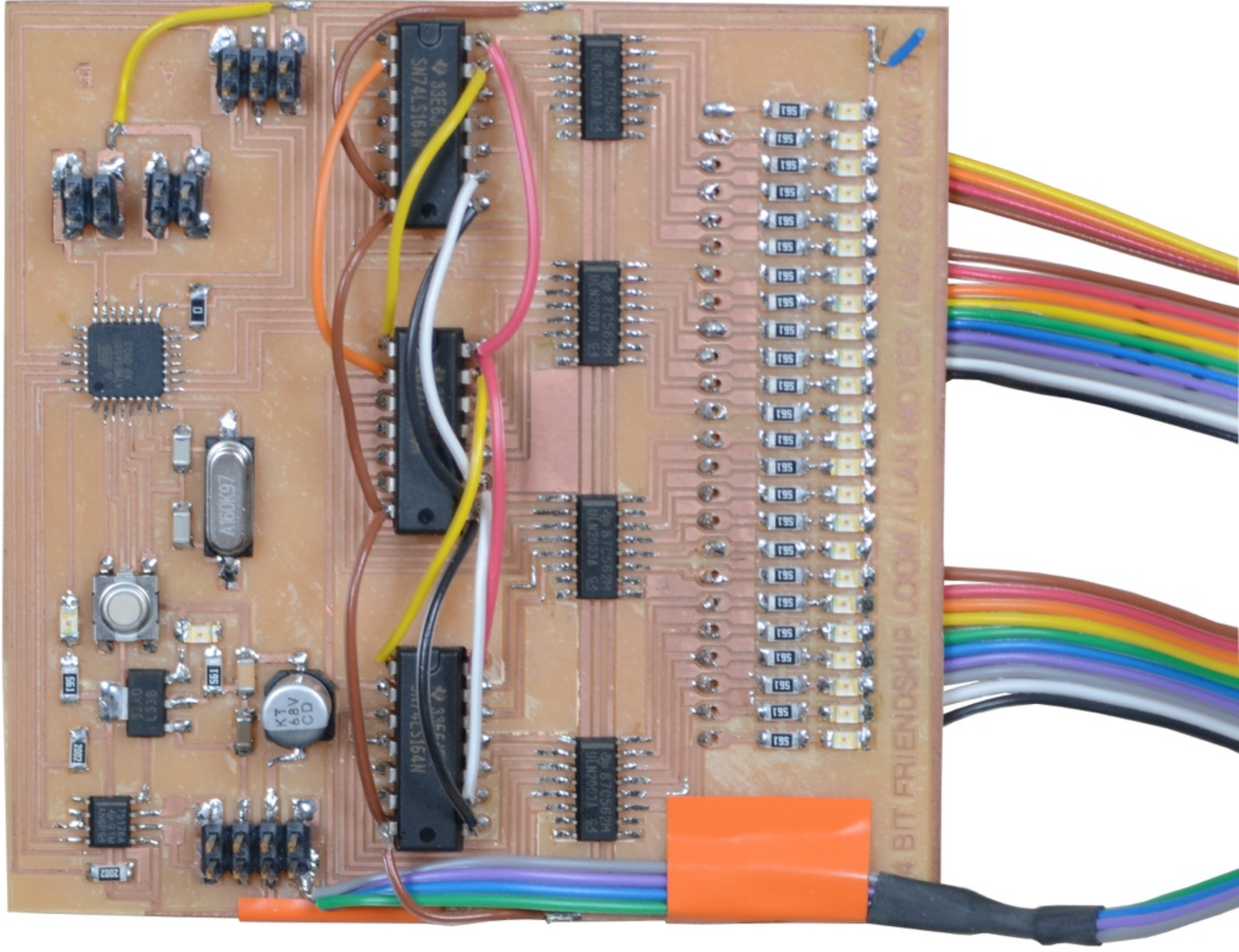
Z

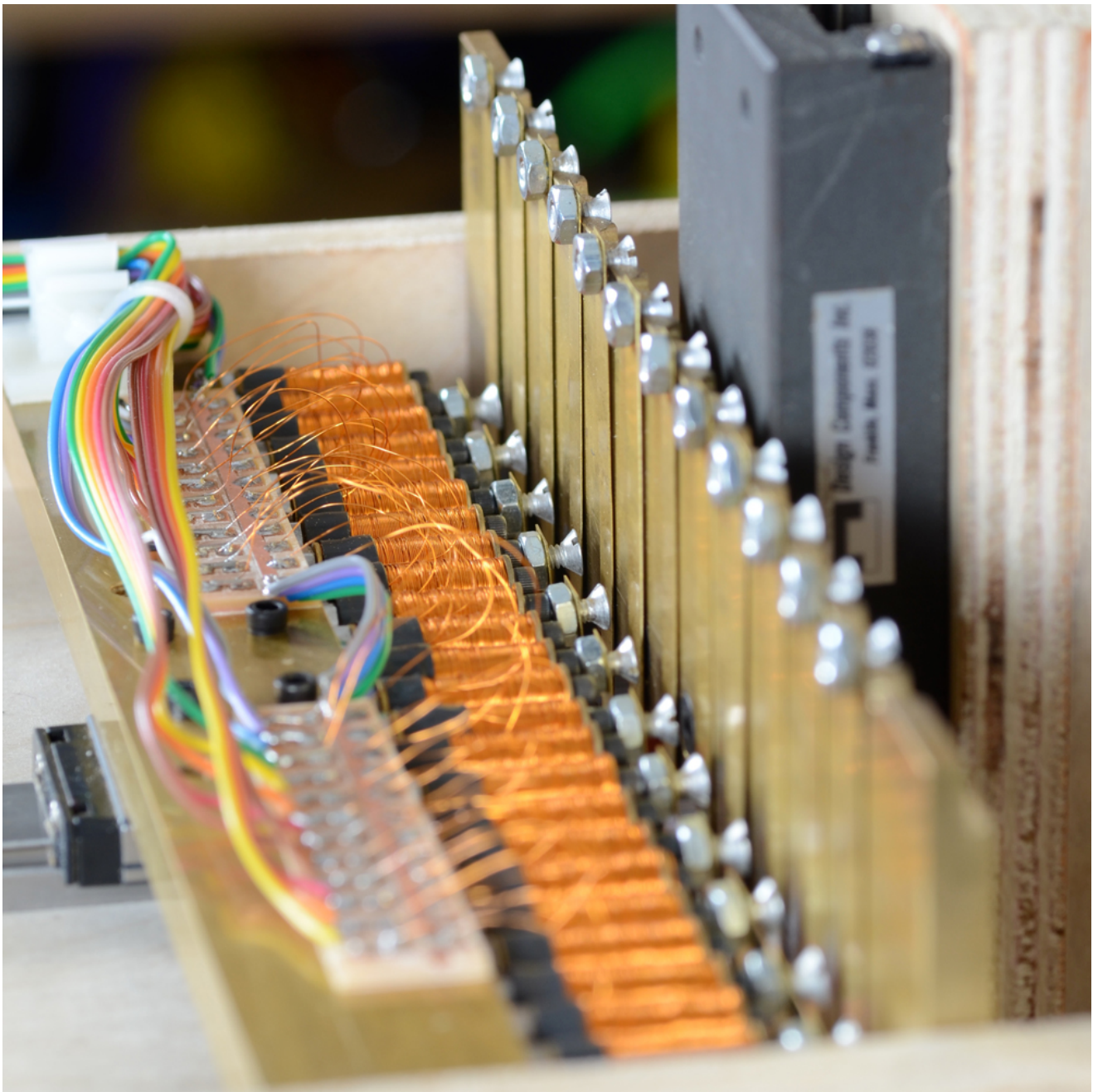
0.00 mm

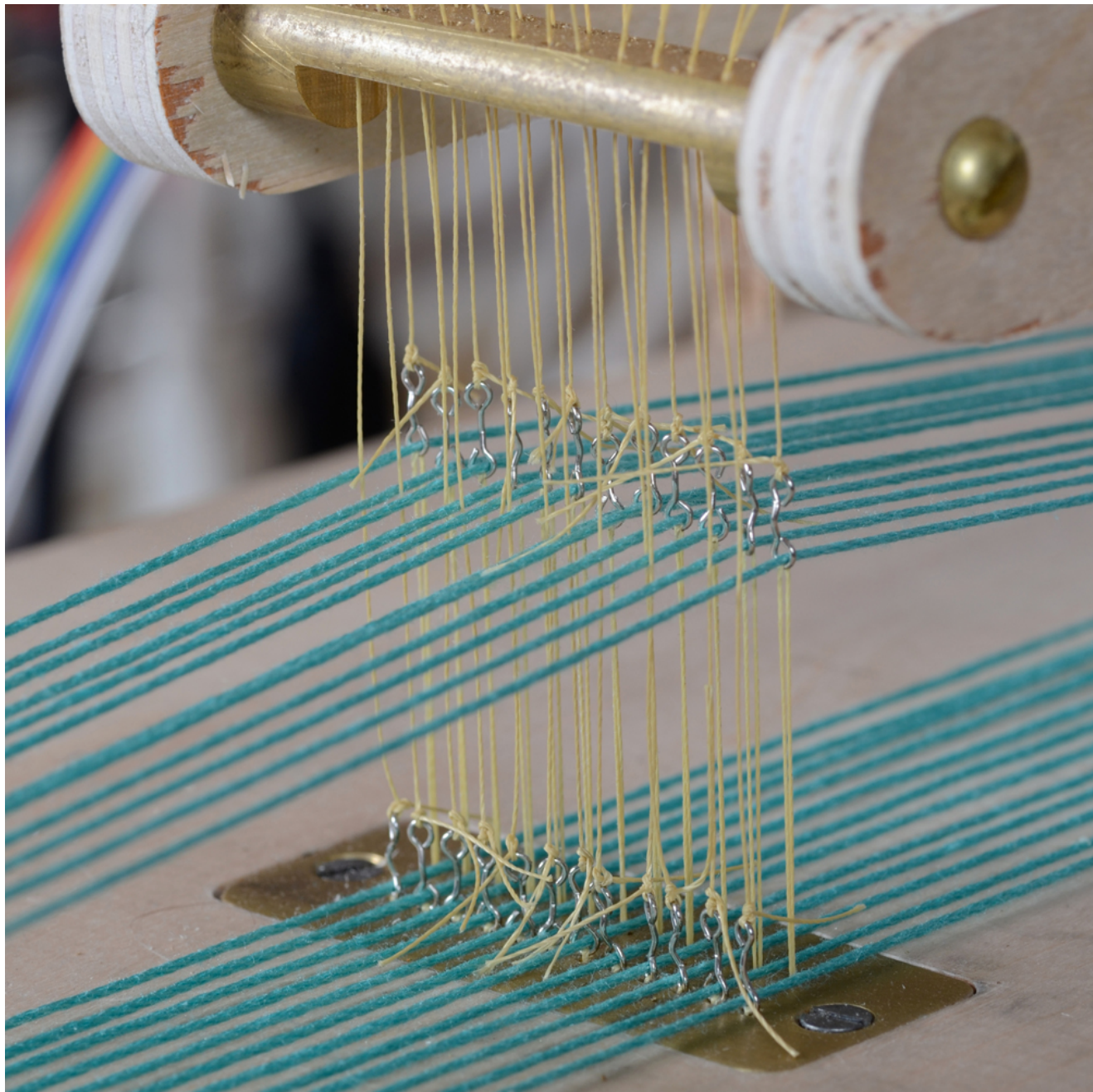
zero





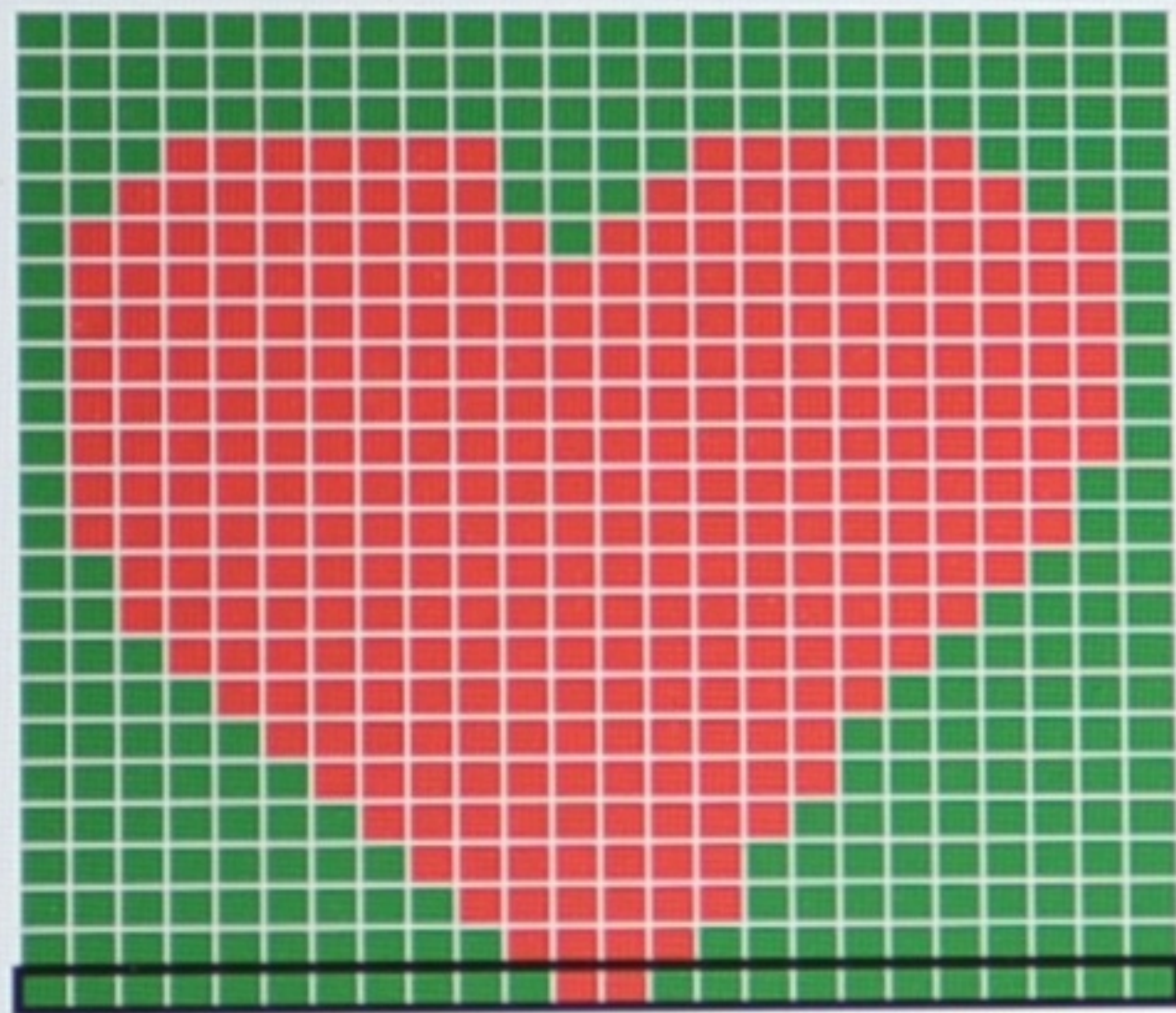






24-BIT FRIENDSHIP LOOM

Pattern Design



Warp:



Weft:



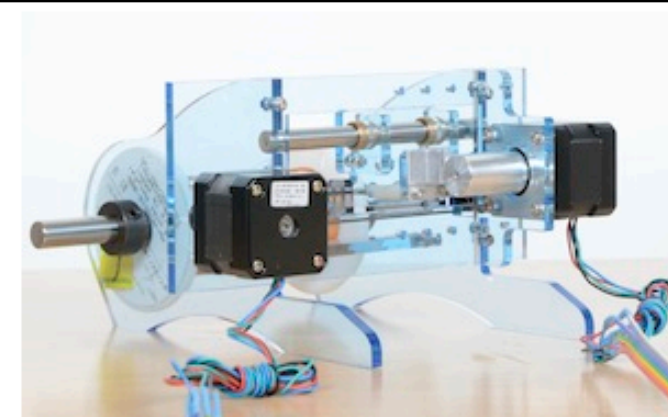
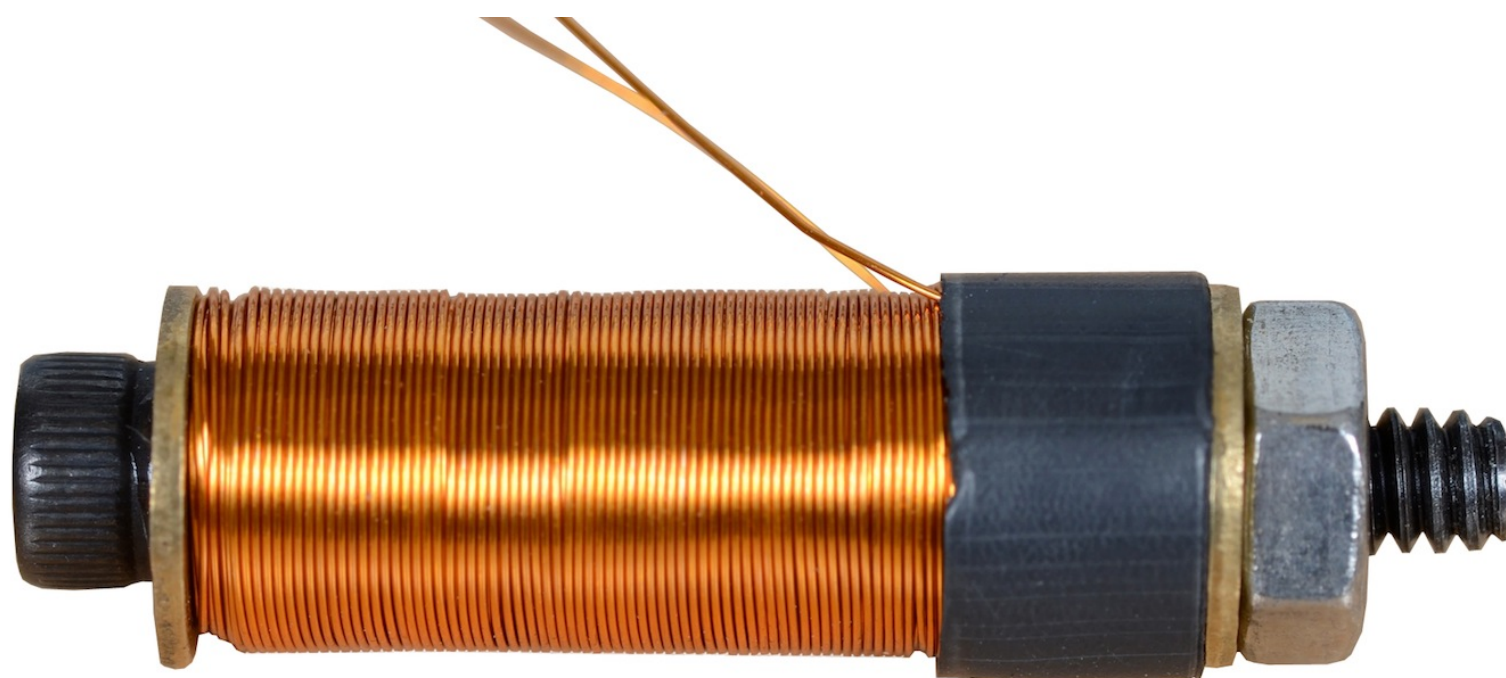
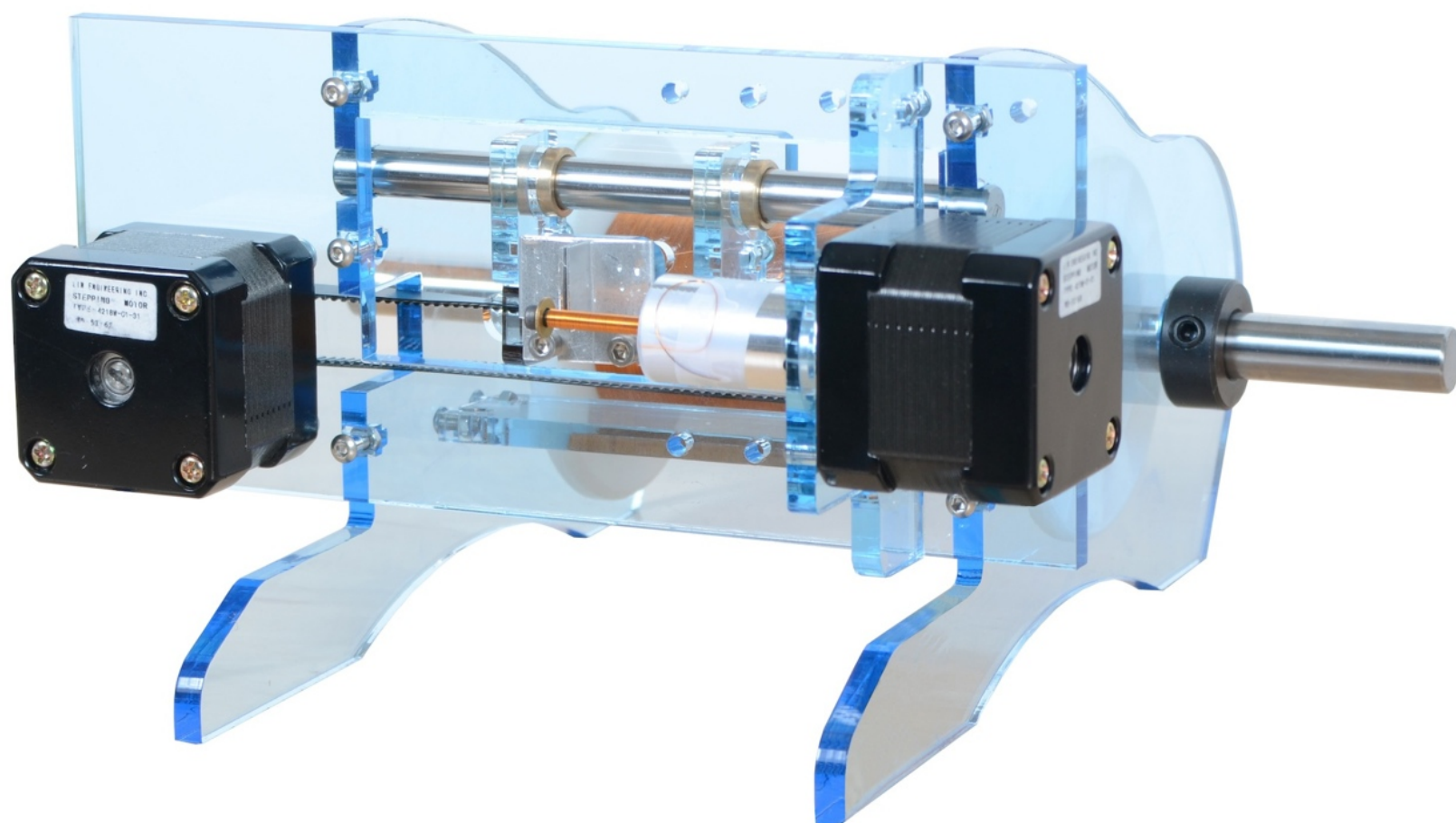
more rows

Loom Control

Kiss Screws with Magnets



Restart



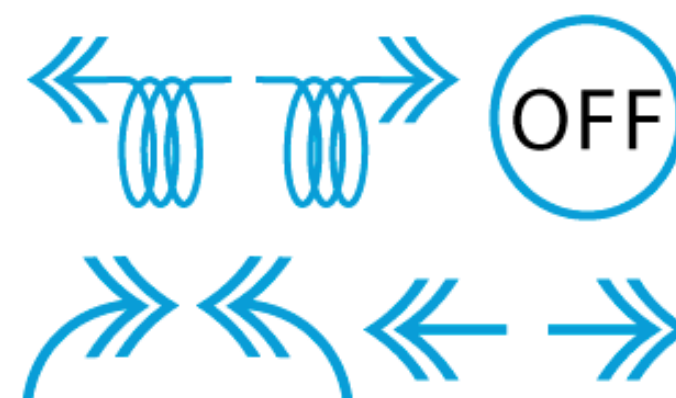
A **0.0** rev **zero**

Z **0.00** mm **zero**

wire diameter: mm

wind length: mm

of wraps:



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www.pygestalt.org