

Piracy of Manufacture

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While the production using normal machine tools and forging metals in Means of Production is useful and able to be produced even in absence of high tech a new age of easy production is arriving. The intro story mentions a printer capable of printing almost anything that could be manufactured or compounded. This is still near future at the writing of this book but we already have community projects working to disrupt the world of production. projects like <http://www.fabathome.org> Fab@Home are community based open and will allow us to truly seize the means of production by abandoning the old CorpGov supply chain. What would a world be like with free object designs that could be downloaded and turned into real objects as easily as we print pages now.

Fab@Home

This from Fab@Home released under the BSD license.

Fab@Home is a website dedicated to making and using fabbers - machines that can make almost anything, right on your desktop. This website provides an open source kit that lets you make your own simple fabber, and use it to print three dimensional objects. You can download and print various items, try out new materials, or upload and share your own projects. Advanced users can modify and improve the fabber itself.

Fabbers (a.k.a 3D Printers or rapid prototyping machines) are a relatively new form of manufacturing that builds 3D objects by carefully depositing materials drop by drop, layer by layer. Slowly but surely, with the right set of materials and a geometric blueprint, you can fabricate complex objects that would normally take special resources, tools and skills if produced using conventional manufacturing techniques. A fabber can allow you explore new designs, email physical objects to other fabber owners, and most importantly - set your ideas free. Just as digital audio and the Internet have freed musical talent, we hope that blueprints and fabbers will democratize innovation.

While several commercial systems are available, their price range - tens of thousands, to hundreds of thousands of dollars - is typically well beyond what an average home user can afford. Furthermore, commercial systems do not usually allow or encourage experimentation with new materials and processes. But more importantly, most - if not all - commercial system are geared towards making passive parts out of a single material. Our goal is to explore the potential of universal fabrication: Machines that can use multiple materials to fabricate complete, active systems.

How Can I Use this to Make Useful Stuff?

If you see the Fab@home machine you might wonder how useful a machine that prints 3D silicone rubber could be to mankind. Instead of rubber heat the syringe and print with real wax, you can make wax models to use in your Means of Production#Lost Wax Method Lost Wax metal forging.

For Example

If an affinity group were to make CAD drawings to feed to a fabber they could begin to turn out almost every part in their own co-op to begin bicycle and cart production and needing only sheet metal, metal tubing, paint, and aluminum and plastic melting scrap.

Or

You could make real your 3d computer art like at <http://www.candyfab.org/> using simple parts and sugar as an inexpensive media.

Or

If civilian victims, simple innocent people facing genocide, could build a more advanced fabber with better tech, they could mass print their way to defensive weapons something like the Rifles#STEN Submachinegun

Or

By printing the shape of the mold in wax and using that to cast a metallic production mold; sculptures, toys, and gadgets could be made for sale or use by the group, all from recycled plastic and scrap metal.

All of these could be accomplished with a home made fabber and a little ingenuity:

- 3-D printing of wax or sugar CAD models for cast metal or plastic parts and lost wax (or dissolved sugar) mold them Means of Production#Lost Wax Method
- Use a normal printer template and paint to Means of Production#Precision cutting precision cut flat and tubular metal
- Using a simple improvised welder Means of Production#Welding they could assemble the finished parts
- If finer finish machining of the parts is needed a Multimachine could be built Means of Production#Multimachine
- A design or print could be applied to your design using a modified silk screen print setup Starting a Printing Workshop#Silk Screen Printing

Beyond the Current Fab@Home

The fab@home machine design currently uses silicone caulk screw ejected from a syringe to print items, more expensive industrial fabber machines either print binder into a plastic powder or for metallic items shoot a powerful laser onto a continually added surface of steel powder. We expect creative radicals and nerds to swipe industrial lasers, mix binders, and build even cooler printers than are on the business market now.

RepRap

<http://RepRap.org> is another fabber project, similar to fab@home, but oriented around building a 3D printer that can make copies of itself.

Future

If at first you are disappointed on seeing the quality of the home made fabber machines remember that these users are at the cutting edge and building something that otherwise would cost tens or hundreds of thousands of dollars. Like the PC revolution of the late 1970's and early 80's those who accept the challenge will be ushering in a whole new generation of piracy where even physical objects will be freed for us to create our own bounty.



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