

# FAB LAB

## **What Is a Fab Lab?**

A Fab Lab (fabrication laboratory) is a small-scale workshop with an array of computer controlled tools of several different scales that work with various materials, with the aim to make “almost anything”. This includes technology-enabled products generally perceived as limited to mass production.

## **Fab Lab Activities:**

- Technological empowerment
- Peer-to-peer project-based technical training
- Local problem-solving
- Small-scale high-tech business incubation
- Grass-roots research

## **Developing Fab Lab Projects:**

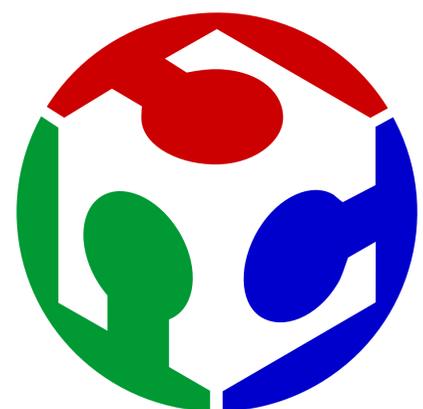
- Solar and wind-powered turbines
- Wireless data networks
- Analytical instruments for agriculture and healthcare
- Custom housing
- Design/fabrication of rapid-prototyping tools

## **Typical Fab Lab Tools:**

- Computer
- Laser Cutter
- CNC Router
- Vinyl Cutter
- CNC Mini-mill
- Microcontrollers

## **Advanced Fab Lab Tools:**

- 3D Printer
- Plasma Cutter
- Water Jet Cutter



# THE FAB LAB CHARTER

**Mission:** Fab Labs are a global network of local labs, enabling invention by providing access for individuals to tools for digital fabrication

**Access:** You can use the fab lab to make almost anything (that doesn't hurt anyone); you must learn to do it yourself, and you must share use of the lab with other uses and users

**Education:** Training in the fab lab is based on doing projects and learning from peers; you're expected to contribute to documentation and instruction

**Responsibility – You're responsible for:**

**Safety:** Knowing how to work without hurting people or machines

**Cleaning Up:**

Leaving the lab cleaner than you found it

**Operations:** Assisting with maintaining, repairing, and reporting on tools, supplies, and incidents

**Secrecy:** Designs and processes developed in fab labs must remain available for individual use although intellectual property can be protected however you choose

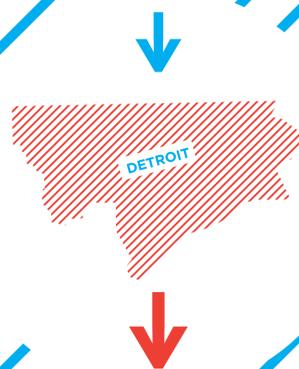
**Business:** Commercial activities can be incubated in fab labs but they must not conflict with open access, they should grow beyond rather than within the lab, and they are expected to benefit the inventors, labs, and networks that contribute to their success.

# MOBILE FAB LAB



## What is a Mobile Fab Lab?

A Mobile Fab Lab is a trailer or other mobile vehicle designed as a compact version of a typical Fab Lab. MIT often loans the Mobile Fab Lab to interested organizations so that they may pilot the project prior to soliciting funding and/or committing to the investment in a permanent Fab Lab.



## Why is it here in Detroit?

The Mobile Fab Lab is currently on loan to the Mt Elliot Makerspace, a Detroit community workshop and soon-to-be Fab Lab, so that they may being operations while they continue their search for an appropriate permanent location. The Mobile Fab Lab will also be traveling to the Detroit Maker Faire where it will be used to offer digital fabrication workshops in musical instrument design/fabrication.

# MAKER FAIRE DETROIT



## What is Maker Faire?

Maker Faire is an event created by *Make* magazine to “celebrate arts, crafts, engineering, science projects and the Do-It-Yourself (DIY) mindset.” It is a family fun festival where everyone can go to make things, learn, play & be inspired by celebrating arts, crafts, engineering, food, music, science and technology. The mission of Maker Faire is to inspire, inform, connect and entertain thousands of Makers and aspiring Makers of all ages and backgrounds through the public gathering of tech enthusiast, crafters, educators, tinkerers, hobbyists, science clubs, students, authors and commercial exhibitors.

## Why is it coming to Detroit?

*Make* magazine decided to locate a Maker Faire in Detroit because they believe that the event will be a great opportunity to showcase the technical and creative talent of the region and further strengthen the network between both professional and amateur “makers.” *Make* editor Dale Dougherty writes “Detroit needs to retool and rethink its opportunities, and quite frankly, I find this [Maker Faire] an exciting opportunity to be part of. If the manufacturing skills and design prowess of Detroit can be married to the tools for communication and expression that the Internet provides, something big will come of it. Already today, you can see the seeds growing.”

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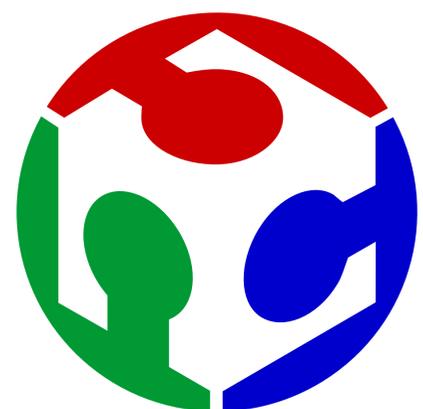
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# FAB LAB HISTORY

## **The History of the Fab Lab:**

The Fab Lab program was started in the Media Lab at MIT as a collaboration between the Grassroots Invention Group and the Center for Bits and Atoms (CBA) at the Massachusetts Institute of Technology. The intention was to more broadly explore how the content of information relates to its physical representation, and how a community can be powered by technology at the grassroots level. While the Grassroots Invention Group is no longer in the Media Lab, The Center for Bits and Atoms consortium is still actively involved in continuing research in areas related to description and fabrication but does not operate or maintain any of the labs worldwide (with the exception of the Mobile Fab Lab). The Fab Lab concept also grew out of a popular class at MIT (MAS.863) named “How To Make (Almost) Anything”. The class is still offered in the fall semesters and due to its popularity is frequently over-subscribed.

## **Locations:**

There are currently 45 labs in 16 countries worldwide. Fab Lab locations range from community centers in economically challenged areas to leading academic institutions.

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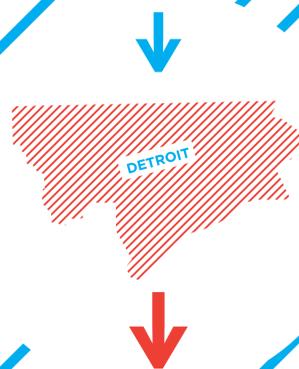
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# MT ELLIOTT MAKERSPACE

## **What is the Mt Elliott Makerspace?**

The Mt Elliott Makerspace (MEM) is a community workshop located in the Near East Side of Detroit that serves as a space for learning, a design/fabrication facility, and a “tinkerers garage.” The Makerspace is designed to leverage its own resources as well as those of the local and global “maker” community to address challenges such as education, environmental awareness, economic development, and community health & well-being. In addition to serving as a space for both formal and informal education, MEM will explore market worthy product/service ideas that allow for integrated learning experiences in design, fabrication, entrepreneurship, project management, and teamwork.

## **Examples of MEM products/services:**

- Tools specifically designed for urban agriculture
- Solar street lighting
- Mass-customized clothing and wearables
- Educational tools such as “Do-It-OURself” building kits for sustainable energy generation, electronics, robotics and musical instruments

## **Mission Statement:**

The Mt Elliott Makerspace is a community workshop that facilitates knowledge growth, entrepreneurship, and leadership development by providing the space and resources for creative “makers” of all ages to learn from one another and realize ideas together.

The Mt Elliott Makerspace is a partnership between the Capuchin Soup Kitchen, the Earthworks Urban Farm, and the Mt Elliott Business and Community Association (MEBCA). Inspiration for the program is drawn from the MIT Fab Lab and the Sustainable South Bronx GreenFab program. The Mt Elliott Makerspace is funded by The Kresge Foundation through their Detroit Program and by the Capuchin Soup Kitchen.

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