Maker Technology Show and Tell

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What is Making and a Maker Space?

- **Making**
  - The act of turning nothing into something
  - The ability to tackle and solve real world problems
  - The means of production within anyone’s grasp

- **Maker Space**
  - A physical space
  - A service
  - A philosophy, culture, way of life
  - Less about technology and more about relationships
Everything…Make your kitchen fixtures. Make your shoes and hat. Make your kids’ toys—if it’s in the stores, it should be downloadable, too. Make tool chests and tools. Make it and build it and sell it. Make other printers and sell them. Make machines that make the goop we feed into the printers. Teach a man to fish, Francis, teach a man to f@#$ing fish. No top-down ‘solutions’ driven by ‘market research’…the thing that we need to do is to make these people the **authors of their own destiny**
Our parents and our grandparents created the world’s largest economy and strongest middle class not by buying stuff, but by building stuff — by making stuff, by tinkering and inventing and building

~Stephanie Santoso, Maker-In-Chief
Making within Larger Context

Slow Foods
Local, Organic Foods and CSAs
Artisanal Goods & Small Batch Production
Tiny House Living
Minimalism
Backyard Farming & Urban Gardening
Making within Larger Context

Bicycling
The Art of Shaving
Occupy Movement
All These “Alaska” Reality TV Shows
It is a rejection of the concept of human as consumer
It is a fight against the continual marketing messages
It is a fight against alienation
It's a return to freedom and control
● It fits within a participatory age
● People are no longer just consumers (or products) but are creators, inventors, tinkerers
● People have the right to shape, create and interact with their own environments
● People want to have power, control, involvement over their everyday life
Everyone should have **access** to the resources and means of production of both the interior world and the exterior world.
Everyone Has a Right To:

- Create
- Explore
- Interact
- Participate
- Discover
- Learn
- Make

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Erich Fromm

Today we come across an individual who behaves like an automaton, who does not know or understand himself, and the only person that he knows is the person that he is supposed to be, whose meaningless chatter has replaced communicative speech, whose synthetic smile has replaced genuine laughter, and whose sense of dull despair has taken the place of genuine pain. Two statements may be said concerning this individual. One is that he suffers from defects of spontaneity and individuality which may seem to be incurable. At the same time it may be said of him he does not differ essentially from the millions of the rest of us who walk upon this earth.
Paulo Freire

to begin always anew, to make, to reconstruct, and to not spoil, to refuse to bureaucratize the mind, to understand and to live life as a process - live to become

‘Power comes from risking ourselves in creation.’
Paulo Freire

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Where Are the Women in Makerspaces?

Insights into the lack of female makerspace members and what can be done about it.

By georgiaguthrie  Posted September 8th, 2014 8:24 am  Category Maker Pro, Makers, Makerspaces  View Comments
Make Magazine Study

As a matter of fact, a review of Make Magazine from 2005 (the first issue) through 2013 revealed:

● 85% of people on the cover have been men
● 100% of the people on the cover have been white
● 87% of editorial staff are male; 100% white

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Maker Ed

Maker Ed - the Maker Education Initiative - trained 108 corps members to be sent in the communities (half were women).
Library Core Values

Access
Equity
Public Good
Library Company of Philadelphia
The Library soon became not only an increasing collection of books but also a full-fledged cabinet of curiosities in the Renaissance mode. Donors deposited in its rooms antique coins, fossils, fauna pickled in spirits, unusual geological specimens, tanned skins, and other oddities. In accordance with its role as an all-embracing cultural institution, the Library Company also participated in the increasingly popular scientific experimentation of its day.
Making and LIS Education

- St Kates (the first)
  - LIS 7963 Content Creation
- University of Washington
  - Libraries as Learning Labs in the Digital Age
- University of Wisconsin Madison
  - Maker Spaces (part of an IMLS grant awarded this month)
Content Creation at St Kates

Audio Production & Music Editing
Movie Editing
Photo Editing and Graphics
3D printing
Cutting Machines
Coding
To be curious;
to not only want to understand,
but to improve and make;
to hammer and saw;
to solder and drill;
to code and debug;
to design and print;
to use the power of
our own two hands;
to leave the world a better place
whether it be through
the products of our labor,
the ingenuity of our mind,
or simply the time we’ve shared
creating with others.

Welcome to the maker movement.
Show and Tell Time!
3D Printer: Up Mini

- Price Range: $350+
  - Up Mini: $599
- Training/Skills: Computer Assisted Design (CAD), 3D Modeling
- Materials: ABS or PLA Plastic
- Other Requirements: Design Software (free), Computer

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3D Printer: Uses and Projects

- Impress People
- Creating Simple Objects
- Simple Replacement Parts (Drapery Cord Pulls, Keyboard Feet)
- Rapid Prototyping
Vinyl Cutter: Silhouette Cameo

● Price Range: $150-$2,000
  ○ Silhouette Cameo: $269
● Training/Skills: Graphic Design
● Materials: Blade, Cutting Mat, Cardstock or Vinyl
● Other Requirements: Silhouette Studio Software (free), Computer

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Vinyl Cutter: Uses and Projects

- Stickers
- Screen Printing Designs
- Painting Stencils
- Paper Crafts (Cards, Certificates, Gift Tags)
See Also: Laser Cutter

- **Price:** $500-$10,000
  - FSL 40W/45W CO2 Hobby Laser: $3,500
- **Training/Skills:** Computer Assisted Design (CAD), 3D Modeling, Graphic Design
- **Materials:** Acrylic, Wood, Lightweight Metals
- **Other Requirements:** Ventilation
  - Also: Safety First!

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Microcomputer: Raspberry Pi

- **Price:** $20-$35
  - Raspberry Pi Model A: $25
- **Training/Skills:** Basic Computer Science
- **Materials:** Imagination
- **Other Requirements:** General Computer Peripherals (Mouse, Keyboard, Monitor) + Cables

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Raspberry Pi: Uses and Projects

- Technology Education/Programming
- Digital Signage
- Media Server
Microcontroller: Arduino

- **Price:** $15-$180
  - Arduino UNO: $25
- **Training/Skills:** Electrical Engineering, Basic Programming
- **Materials:** Imagination
- **Other Requirements:** Arduino Software (free), Computer, Wires, Resistors, LEDs, Sensors

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Arduino: Uses and Projects

- Homebrewing Temperature Controller
- Lawn/Houseplant Moisture Monitor
- Home Automation System
Other Areas

- Robotics (Arduino, Mindstorms, Sphero)
- AV Club (audio and video recording/editing)
- Home Economics (sewing, weaving)
- Shop (woodworking, metallurgy, tool libraries)
See Also: Makey Makey

- Price: $50
- Training/Skills: Basic Circuit Concepts
- Materials: Anything Conductive (wires, metallic ribbon, bananas)
- Other Requirements: Computer
Library Box

- Price $150-$200
- LibraryBox is an open source, portable digital file distribution tool based
- Provide patrons access to content over wifi (eBooks, minutes and agenda, etc...)
Google Cardboard

- $15 and up
- A way to turn Android phones into virtual reality machines
- Cheap way to see, demonstrate and show off virtual reality
- Have fun watching people walk into walls
Final Thoughts

- Start small.
- See where your users’ interests go.
- Many of these tools are easy to learn but hard to master.
- A defined “space” can be very powerful.
- Makers are everywhere.
Resources

Instructables.com
Inventables.com
Makeitatyourlibrary.org
Maker Space Playbook School Edition