

Appendix 3.

Environmental Scan - Public Library Makerspace

Detroit Public Library

1. **Vision** - The HYPE Teen Center is a place where the passions of young adults are inspired through the spirit of invention, creativity, learning, and do-it-yourself (DIY) culture.
2. **Role** – Working with teens. Limited to 13-18 year olds.
3. **Staffing & Service** - Young adults work in groups with expert instructors during our weekly workshops. Once teens learn the basics of various skills, they are then allowed to go beyond the set curriculum and create new inventions and art of the teens' vision.
4. **Programming** – workshops & calendar of events. Bike Tech, Basics of Electronics, DIY Crafting, Graphic Design, Sewing/Wearables, Arduino Robotics
5. **Space** – unknown
6. **Tech Specs** – unknown

Cleveland Public Library

1. **Vision** – The TechCentral makerspace is a creative and collaborate design and fabrication space that allows you to turn your ideas into reality.
2. **Role** – The makerspace is available to all Cleveland Public Library and CLEVNET member library card holders.
3. **Staffing & Service** – The TechCentral MakerSpace is open Monday through Saturday, 10:00 a.m. until 5:30 p.m. The cost for printing is \$0.05 per gram of plastic used. We will review your file and a staff member will queue up your file to print.
General use of the space, equipment and software is free of charge with your library card. A variety of materials for the laser engraver, vinyl cutter, and 3D printer are available for purchase at the TechCentral MakerSpace. You are welcome to bring in your own materials for use with the laser engraver and vinyl cutter. MakerSpace staff must approve all user-supplied materials before they are used on makerspace equipment, to prevent damage to equipment, or harm to uses within the makerspace.
4. **Programming** – Scheduled classes: 3D Cookie Cutter Lab, 3D Printing Basics, Lunch n' Learn: 3D Printer, Papercraft 3D Modeling
5. **Space** – Lower Level. Additionally, a small seating and meeting space, including a SMARTBoard projector, is available for project design and collaborative meetings.
6. **Tech Specs** –
 - a. The TechCentral MakerSpace has one Epilog Mini 24"x12" 40-watt Laser Engraver. CorelDRAW and Adobe Illustrator vector graphics software are available for designing and preparing projects for the laser engraver.

- b. The TechCentral MakerSpace has one Roland GX-24 Vinyl Cutter available for use, as well as a variety of vinyl sign making tools. CorelDRAW vector graphics software is available for designing and preparing projects for the vinyl cutter.
- c. The TechCentral MakerSpace has one MakerBot Replicator 2 3D printer, and one NextEngine 3D Scanner HD available for use. Also available for staff-assisted prints are a MakerGear M2 3D Printer and a MakerBot Replicator 2X ABS printer.
- d. The TechCentral MakerSpace has the following Photography and Videography equipment available:
 - Canon T5i DSL Camera with 18-55mm ES-F IS STM Lens
 - 9'x10' White Backdrop
 - 9'x10' Chrome Key Green Backdrop
 - Two 500w Studio Lights
 - MyStudio Photo Light Box with 5000K Light, 9 Color backgrounds including White
 - Wacom Intuos Creative Pen & Touch Tablet (Medium)
 - Adobe Photoshop
 - Adobe Premier
 - Adobe After Effects
 - Corel PHOTO-PAINT
 - Paint.NET
 - Apple iMovie
 - Windows Movie Maker
- e. The TechCentral MakerSpace has the following Music equipment and software available:
 - M-Audio Oxygen 25 USB MIDI Keyboard
 - Squire Bullet Strat Guitar
 - Squire Bronco Bass Guitar
 - Korg Monotron, monotron DUO, and monotron DELAY analog synthesizers
 - Mbox 3 Mini Interface
 - Avid Pro Tools Express
 - Audacity
 - Apple GarageBand

[Piscataway Public Library](#)

1. **Vision** – Make It Yourself (MiY) gives residents of all ages access to tools, techniques and hands-on learning experiences that will spark their imaginations and enrich their lives.
2. **Role** – A particular focus will be given to young people, with the goal of inspiring/nurturing their interest in science, technology, engineering, and math (STEM).
3. **Staffing & Service** - work with library staff to create practical and innovative products. Open MWF, 3-5pm and T & W, 7-9. Volunteers cover T & W.

4. **Programming** – "Summer of MAKE". This unique 8 week program will provide more than 20 programs of making and experimenting with a variety of materials and across disciplines including robotics, electronics, art, botany, genetics, music, sewing and more. Available for grades 4-6 and grades 7-12. Some programming: Solar Robotics, Extra Your Own DNA, Smartphone Digital Microscope, Tiny Music Visualizer, Electric Origami.

5. **Space** – Large open room with table & cabinets.

6. **Tech Specs** –

- a. Makerbot Replicator 2 printer
- b. NextEngine 3D Scanner works with Autodesk Inventor, Blender, the open source 3D Design program, as well as the Makerbot 3D Printer.
- c. Makey Makey Arduino Kits
- d. iMac with GarageBand and some basic tools needed for nearly-silent music production with an Audiobox USB and 4 channel headphones.
- e. Digital Vinyl Cutter that works with Adobe Illustrator
- f. 2 Serger Sewing Machines
- g. Vex Robotics robot kits
- h. Supplier Button Maker and supplies
- i. STEM kits from Makershed: Little Bit Magnetic Circuit Kits, Snap Circuits Jr.

Chicago Public Library

1. **Vision** – Innovation Lab allows us to experiment with new ideas in library services and programs.

2. **Role** – Community-operated workspace where people with common interests come together to learn.

3. **Staffing & Service** – Mon-Thu, 1pm-8pm, Fri-Sat, 10am-4pm

4. **Programming** – Register for workshops on Eventbrite. 3D Earrings, Iron-on Transfer Tote Bag, 3D Earring Tree, Lights/Music & Arduino Electronics, Sunlight Photography

5. **Space** – 3rd floor, large open area with tables, cabinets and equipment

6. **Tech Specs** – 3 Makerbot Replicator 2 printers, SketchUp 3D software, laser cutters, milling machine, vinyl cutter, knitting machine, Inkscape software, acrylic bender

Missoula Public Library

1. **Vision** – a place people can go to get the training, tools, and camaraderie to start turning their ideas into physical things.

2. **Role** – Community service.

3. **Staffing & Service** – over 100 volunteers who offer their expertise. Classes are free, but you may be asked to bring your own kit.

4. **Programming** – Bicycle Maintenance and Repair, Arduino Under the Hood, How to setup a website on Wordpress, Intro to Library Telescope (library will lend one), Mikrotik User's Group, Linux Users Group, 3D Printing, Raspberry Pi Projects, Open Time

5. **Space** – unknown

6. **Tech Specs** –

- A Makerbot Replicator 2 3D printer
- A Next Engine Desktop 3D scanner
- A Bernina model 1008 sewing machine
- A Cricut Expression 2 craft cutter
- A Silhouette Cameo craft cutter
- A digital oscilloscope
- A USB oscilloscope
- Two function generators
- Two power supplies
- Two variable temperature soldering irons
- A variety of hand tools such as those found in home toolboxes (pliers, screwdrivers, etc.)
- An adjacent room houses 6 computers with a projector which can be used for lessons
- An Eggbot
- A Sparkfun Inventor's kit
- A Sparkfun Deluxe Toolkit
- Dell dual-boot notebook to Linux and Windows
- Adafruit Raspberry Pi starter pack

Madison Public Library

1. **Vision** – Whether offering the basics of animation, screen printing, music, clothing design, dance, or painting (to name a few), the Bubbler's hands-on pop-up workshops introduces participants to a variety of local experts who share their talents and physical resources.

2. **Role** – service to all ages in community

3. **Staffing & Service** – Open during all regular library hours.

4. **Programming** – Screenprinting, Photoshop, 3D Modeling, 3D World Building, Audio Engineering, Anime and Manga Drawing, Open Media Lab

5. **Space** – offered at all nine branches, large open room with tables, digital displays, glass walls

6. **Tech Specs** -

Media Lab

- Custom game design PCs with Maya 2014, Unreal Engine, Adobe Creative Cloud

- Soundbooth & Digital Workstation with Mac Pro, sound boards, turntables, Zoom H2 recorders, microphones, Pro Tools, GarageBand, DJ2
- iPad & Hand-Drawn Animation Stations with stop-motion stations, hand drawn light box stations, Stop Motion Studio, iMovie
- Green Screen with Adobe Creative Cloud, iMovie, I Can Present
- JVC High-Def Camcorder, Canon 60D DSLR, Canon 70D DSLR, GoPro

Fayette Free Library

1. **Vision** – At the Fayetteville Free Library, we want YOU to have the power to make your dreams come true!
2. **Role** – These labs are learning environments that serve as gathering point for knowledge, tools, mentors and expertise.
3. **Staffing & Service** – Has 3 labs. Creation Lab focuses on digital creation. Fab Lab focuses on fabrication of tangible objects, Little Makers is a free play area that encourages children to imagine, create and build.
4. **Programming** – SolidWorks: Creating Parts, 3D Printer and Vinyl Cutter Certification Classes, 3D Design Classes (Sketchup and SolidWorks), Robotics Club
5. **Space** – unknown
6. **Tech Specs** -

Hardware:

- Makerbot Replicator2 3D printer
- Bits from Bytes 3D printer
- Makerbot Thing-O-Matic 3D printer
- Canon PowerShot A2300 Digital Camera
- Kodak Mini Video Camera
- HP Photosmart 5510 All-In-One Color printer
- Digital Concepts Tripod
- 85-watt Photo Light
- 10' x 9' Green Screen wall
- 2 Shure SM28 Microphones w/ Stands
- HP Compaq 6200 Pro SFF computer
- HP Compaq 4000 Pro SFF computer
- 27" iMac computer

Software:

- **Adobe CS 6 Production Premium** - Photoshop, Illustrator, Premiere Pro, and more
- iLife Suite- Garage Band, iMovie & iPhoto
- Audacity - for audio recording
- Cyberlink Power Director 8 - moving making software
- Microsoft Office 2010

Vinyl Cutting

- Sure Cuts A Lot Pro
- Graphtec Robo Master Pro

Hand Tools:

- Hammers, screwdrivers, wrenches, cutting tools, measures & levels, etc.

Electronics:

- Soldering irons, wire cutters, strippers, vises, solder suckers, multimeters, etc.
- Arduino boards

Computers:

- PCs
- Macs
- Raspberry Pis

Edmonton Public Library

1. **Vision** – The EPL Makerspace is a creative and collaborative environment where ideas are shared. The Makerspace offers incredible technology and equipment for the public to create on.

2. **Role** – Open to the general public.

3. **Staffing & Service** – Makerspace Assistants on hand at all times. The Assistants aren't experts on everything. Charge \$0.10 per gram of filament.

4. **Programming** – Makerspace Robotics: Lego, Music Maker, Gaming Night, Espresso Book Machine: Formatting, Scratch Programming, Intro to 3D Printing, Makey Makey Fun

5. **Space** – unknown

6. **Tech Specs** –

Hardware

- Machina X16 Pro 3D Printer
- Machina X24 Pro 3D Printer
- Tinkercad modeling software

- Espresso Book Machine
 - Green Screen
 - Digital Conversion Area - Flat bed scanner & VHS to DVD converter
 - Three gaming consoles and two gaming PC's – XBOX 360, Playstation 3, and WiiU
 - 4 MAC's and 4PC's with specialized software
 - Electric keyboard and beat boxes with headphones – plus music editing software on computer
 - Projector, projector screen, green screen wall, lighting kit, video camera, digital camera – plus video editing software on the computers
- Lego Mindstorm Robotics, MaKey MaKey, Arduino, and littleBits kits

Computer Software Available:

1. Ableton Live 9 Standard Sound, recording and editing (PC, Mac)
2. Arduino Developer Tool Kit (PC, Mac)
3. Blender, 3D computer graphics, creation (PC, Mac)
4. Kodu Game Lab, game design (PC)
5. FL Studio fruity edition, music (PC)
6. Adobe Creative Suite 6 Production Premium, (PC, Mac)
7. Audacity, Sound Recording (PC, Mac)
8. Dropbox Client Storage (PC, Mac)
9. GIMP with UFRaw plugin, Photos (PC, Mac)
10. Handbrake, Video conversion (PC, Mac)
11. Inkscape, Illustration (PC, Mac)
12. Inform 7, Game design (PC, Mac)
13. Microsoft Office 2010 Standard (excluding Outlook) (PC, Mac)
14. MinecraftEDU, gameplay (PC, Mac)
15. OpenSCAD, modeling (PC, Mac)
16. Python 3.3.2, programming (PC, Mac)
17. SketchUp Make 2013, modeling (PC, Mac)
18. Twine, game design (PC, Mac)
19. VideoLAN Player, video playback (PC, Mac)
20. Wondershare Video Converter Ultimate, video \ sound conversion (PC, Mac)
21. Notepad++, coding (PC, Mac)
22. Filezilla, file transfer (PC, Mac)
23. Anime Studio Pro Illustration (PC, Mac)
24. Manga Studio 5 Illustration (PC, Mac)

Ottawa Public Library

1. **Vision** – offering technologies and tools that allow customers to experiment and to create in a social setting.
2. **Role** – unknown
3. **Staffing & Service** -
4. **Programming** – Making with Arduino, Laser Cutter & 3D Printer Certification
5. **Space** – unknown
6. **Tech Specs** -
 1. 3D printing and modeling
 2. Laser cutting
 3. Photo, video and audio editing
 4. Green screen and video gear
 5. Hand tools and electronics
 6. Wall-to-wall whiteboard