

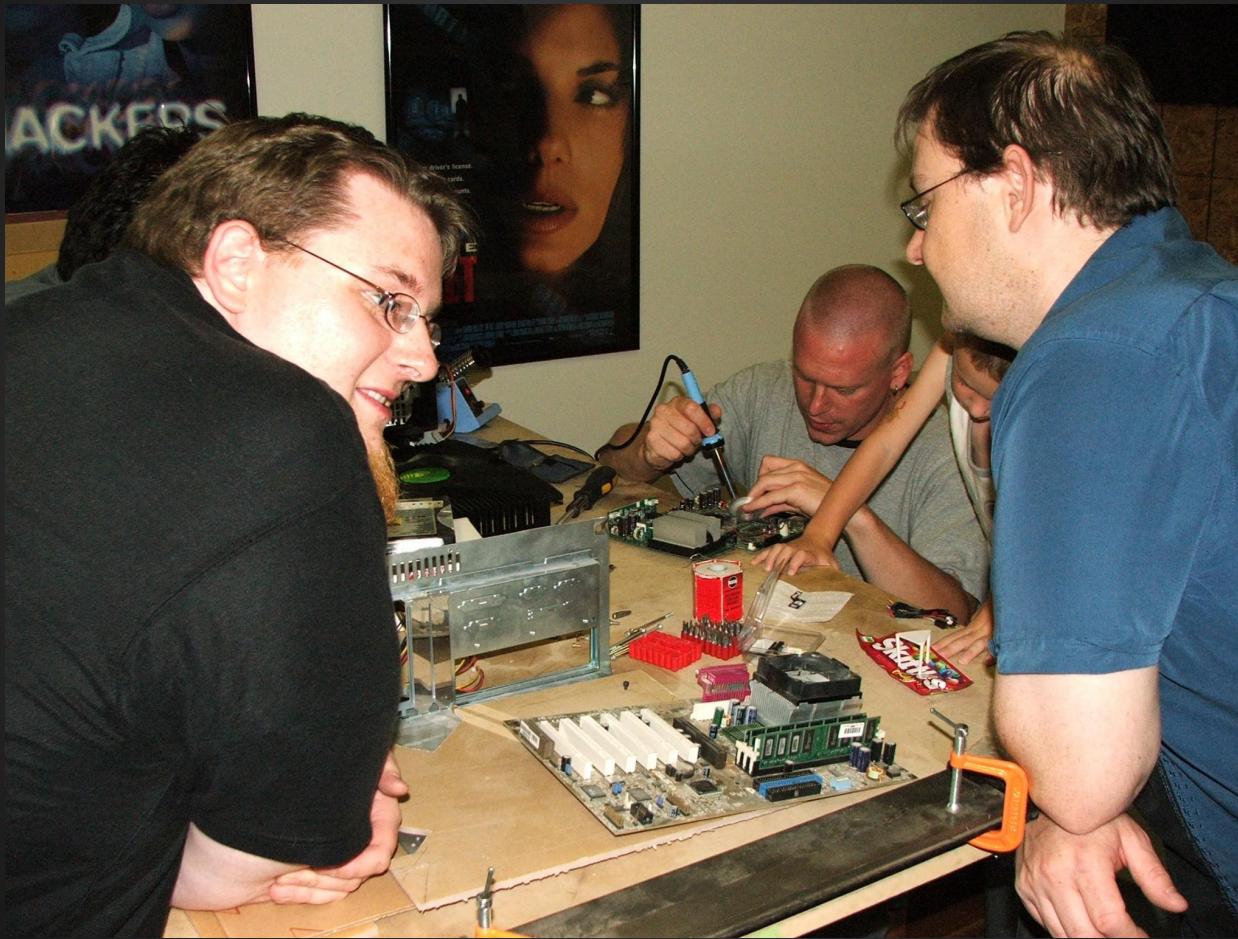
# Starting a Hackerspace

# Who am I?



d3c4f

# Founder of HackSLC (2009)



# Founding Sponsor MakeSLC (2009)

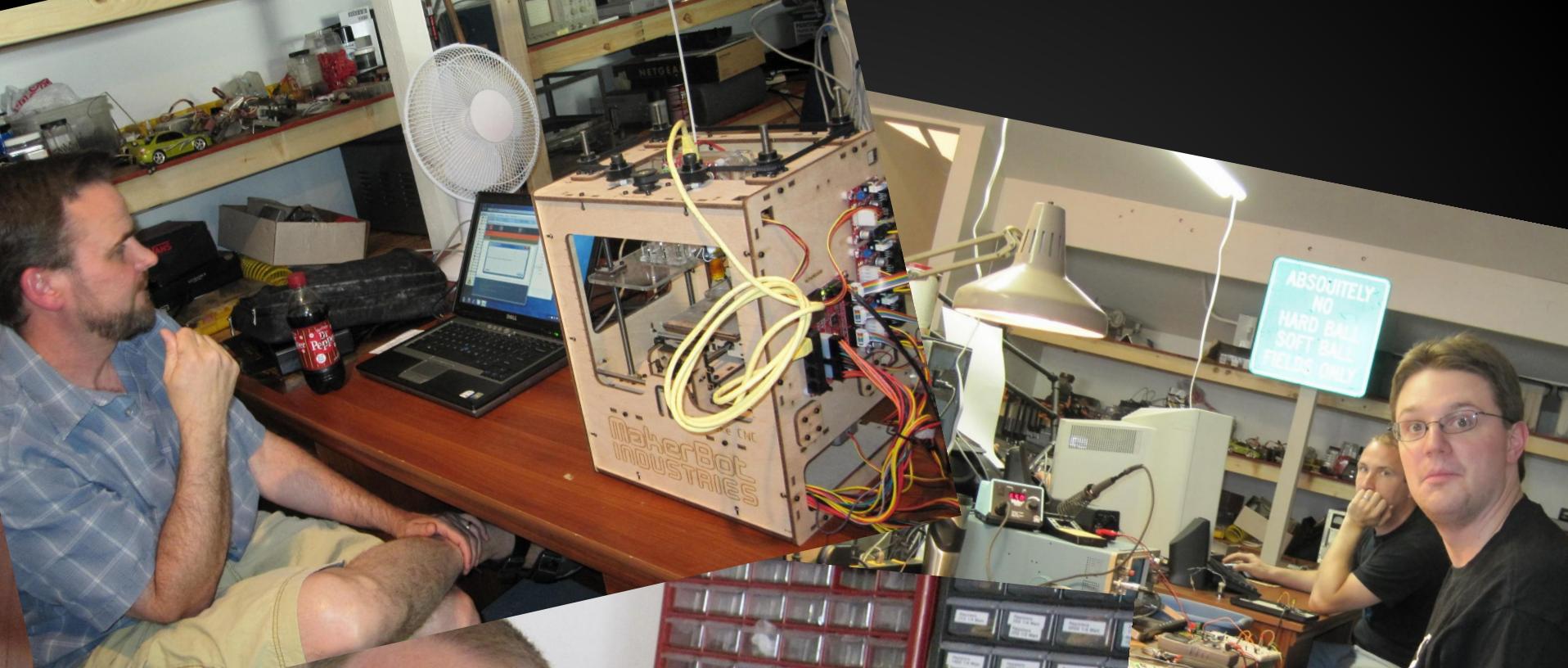


# Founder of TheTransistor (2010)













1. **What is a hackerspace and why would you possibly want to start one?**

1. **What is a hackerspace and why would you possibly want to start one?**

**Hackerspaces.org -**

"Hackerspaces are community-operated physical places, where people can meet and work on their projects."



# 1. **What is a hackerspace and why would you possibly want to start one?**

## **Wikipedia.org -**

"A hackerspace or hackspace (also referred to as a hacklab, makerspace or creative space) is a location where people with common interests, often in computers, technology, science, digital or electronic art (but also in many other realms) can meet, socialise and/or collaborate. Hackerspaces can be viewed as open community labs incorporating elements of machine shops, workshops and/or studios where hackers can come together to share resources and knowledge to build and make things.

Many hackerspaces participate in the use and development of free software, open hardware, and alternative media. They are often physically located in infoshops, social centers, adult education centers, or on university campuses, but may relocate to industrial or warehouse space when they need more room."

# Obligatory CCC History





- :: One of the first hackerspaces
- :: Based in Germany
- :: Formed around 1981

# **Other subsets / similar groups**

**∴ Electronics Clubs**

# Other subsets / similar groups

- .: Electronics Clubs
- .: Maker spaces

# Other subsets / similar groups

- .: Electronics Clubs
- .: Maker spaces
- .: Think Tanks

# Other subsets / similar groups

- .: Electronics Clubs
- .: Maker spaces
- .: Think Tanks
- .: Defcon Chapters

# Other subsets / similar groups

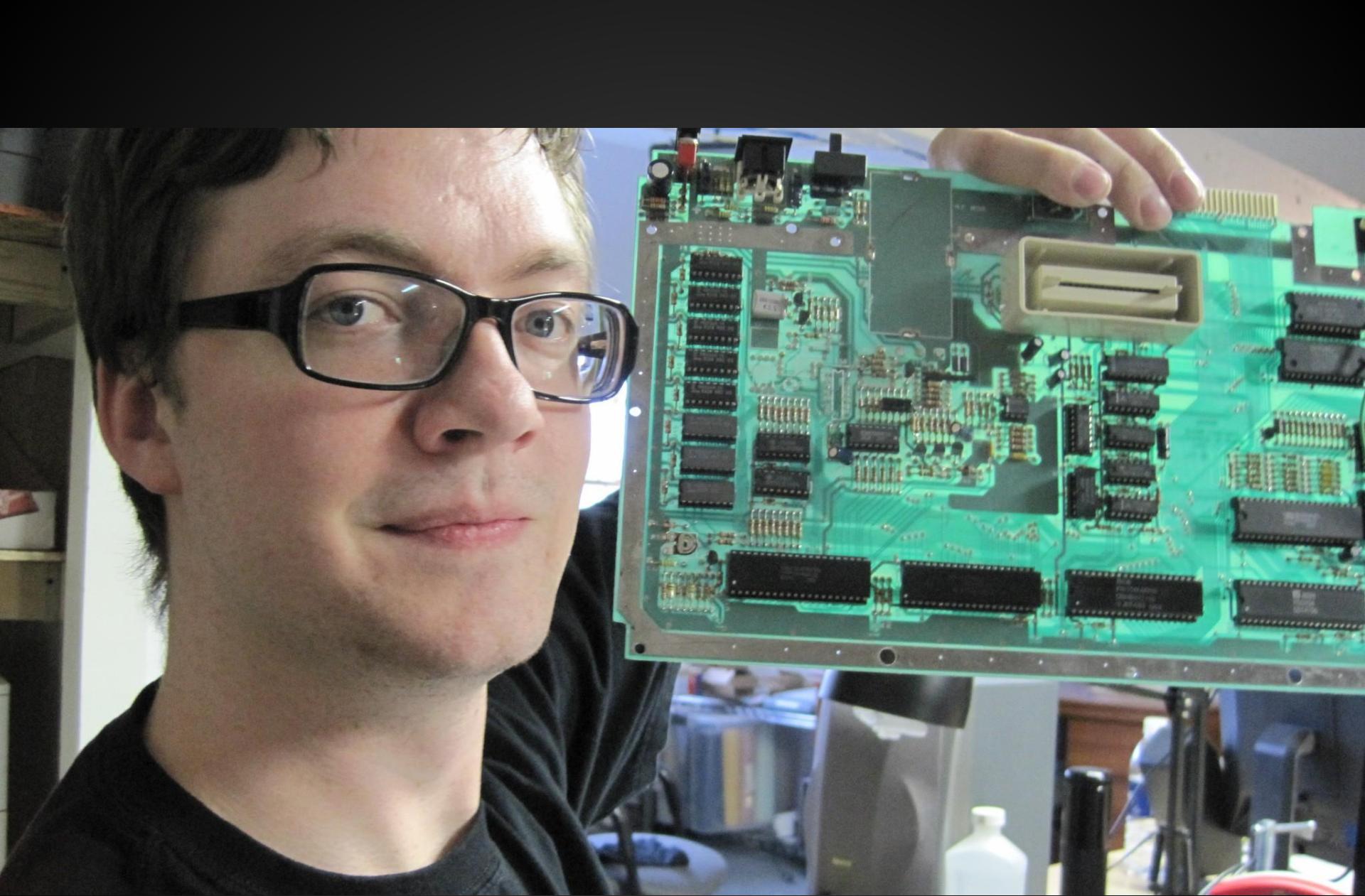
- .: Electronics Clubs
- .: Maker spaces
- .: Think Tanks
- .: Defcon Chapters
- .: Make: Groups

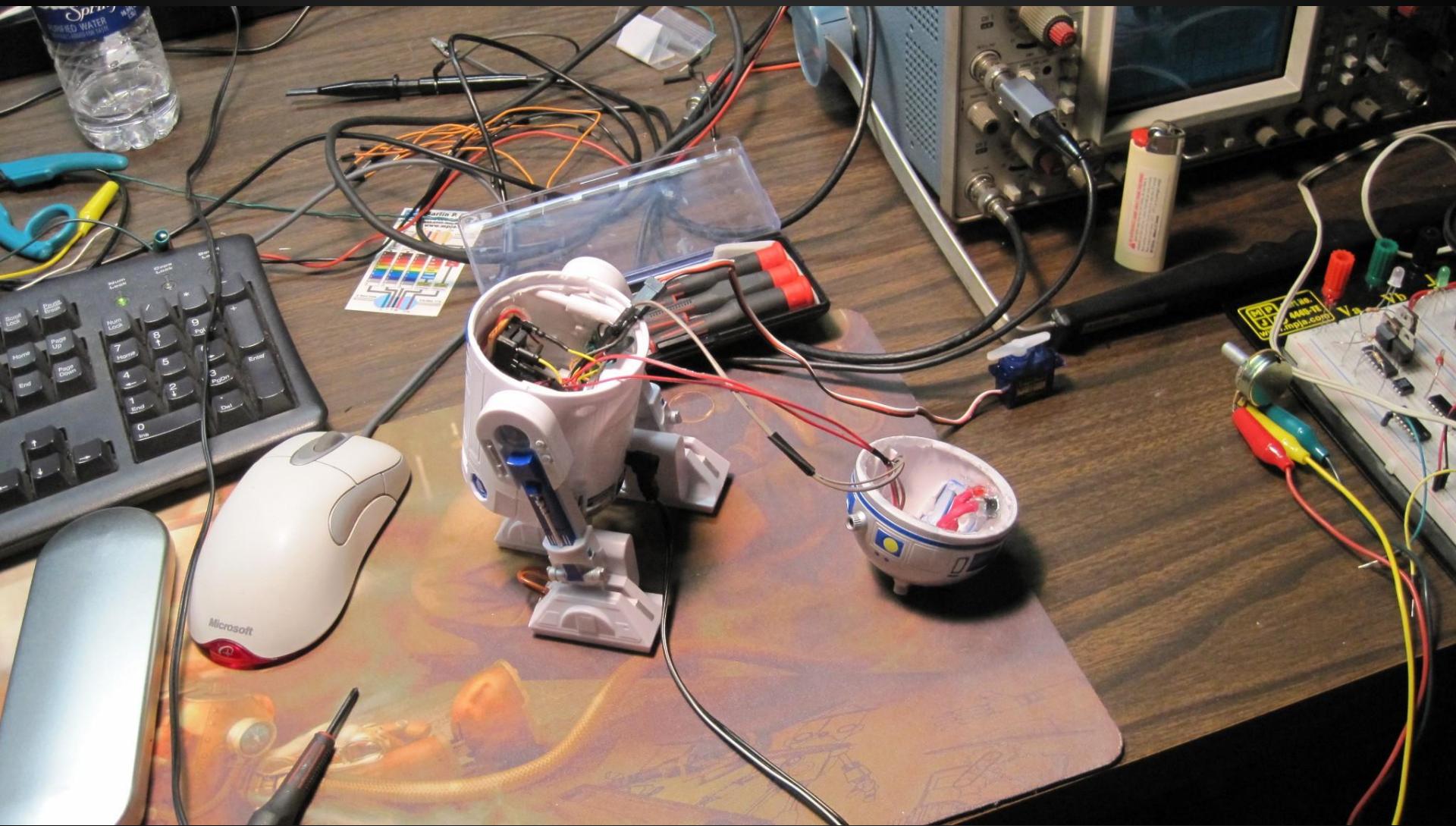
# Other subsets / similar groups

- .: Electronics Clubs
- .: Maker spaces
- .: Think Tanks
- .: Defcon Chapters
- .: Make: Groups
- .: Ham Radio Groups









# Is this common?

# Is this common?

How many in: Utah ?

# Is this common?

How many in: Utah (5-6)

.: TheTransistor / Darlington (Provo /  
Midvale)

.: Logan Laser Labs (Logan)

.: Mod Technologies (Ogden?)

.: MakeSLC (SLC)

.: ??? (Park City)

# Is this common?

How many in: USA?

# Is this common?

How many in: USA?

About 200+

(\*According to Hackerspaces.org, and my  
crappy guesswork)

# Is this common?

How many in: World?

# Is this common?

How many in: World?

Over 500

(\*According to Hackerspaces.org, and my  
crappy guesswork)

/note Not over 9000





# Why would you want to start a hackerspace?

# Why would you want to start a hackerspace?

Ultimately depends on what you want

# Why would you want to start a hackerspace?

Ultimately depends on what you want

.: Community

<< People that share some common ground with you.

ABSOLUTELY  
NO  
HARD BALL  
SOFT BALL  
FIELDS ONLY











UNION JACK®

01 CRICKET 01

MATLAB®  
& SIMULINK®

STUDENT VERS.

01 CRICKET 01

UNION JACK®

01 CRICKET 01

20

# Why would you want to start a hackerspace?

Ultimately depends on what you want

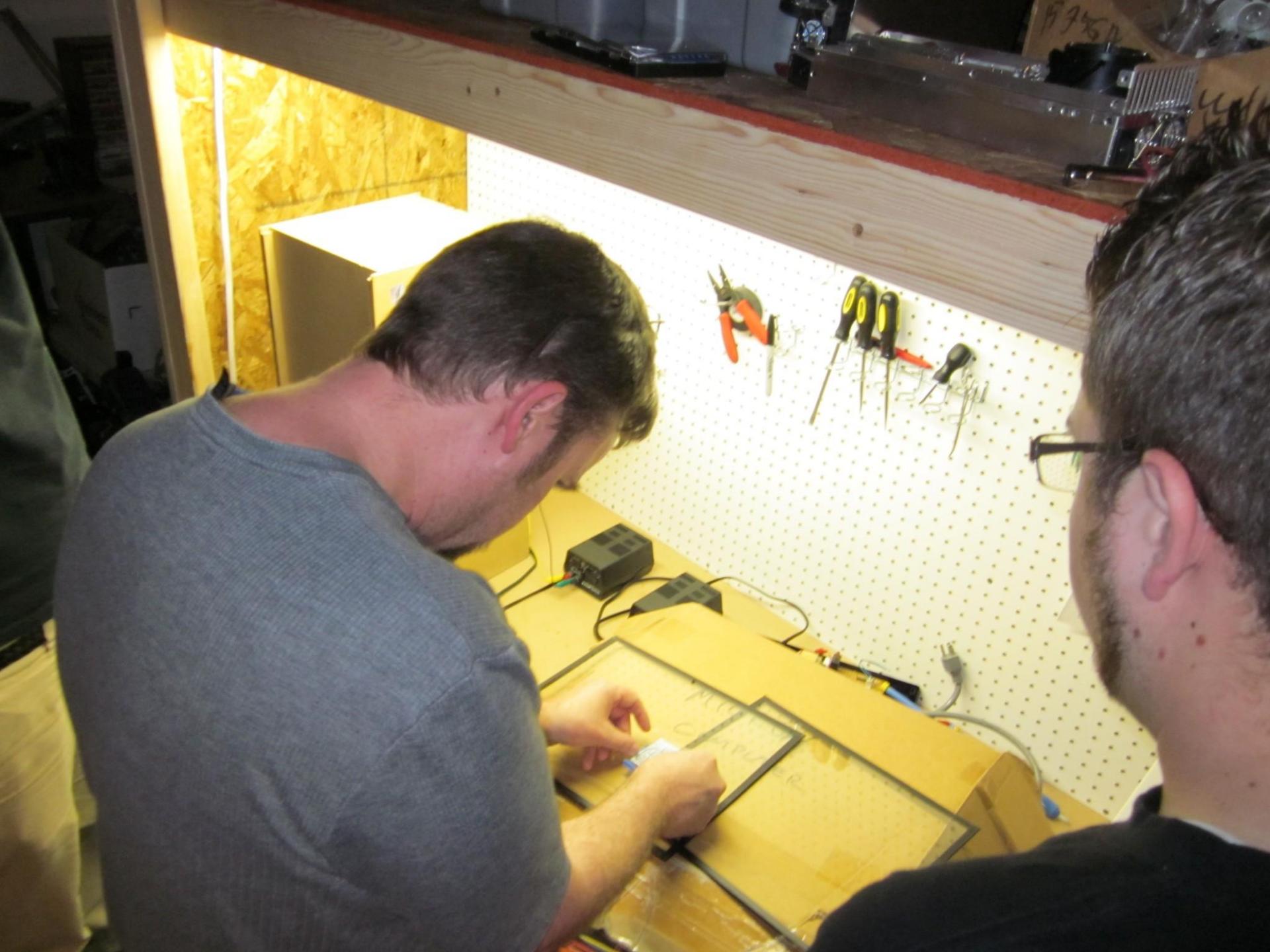
.: Community

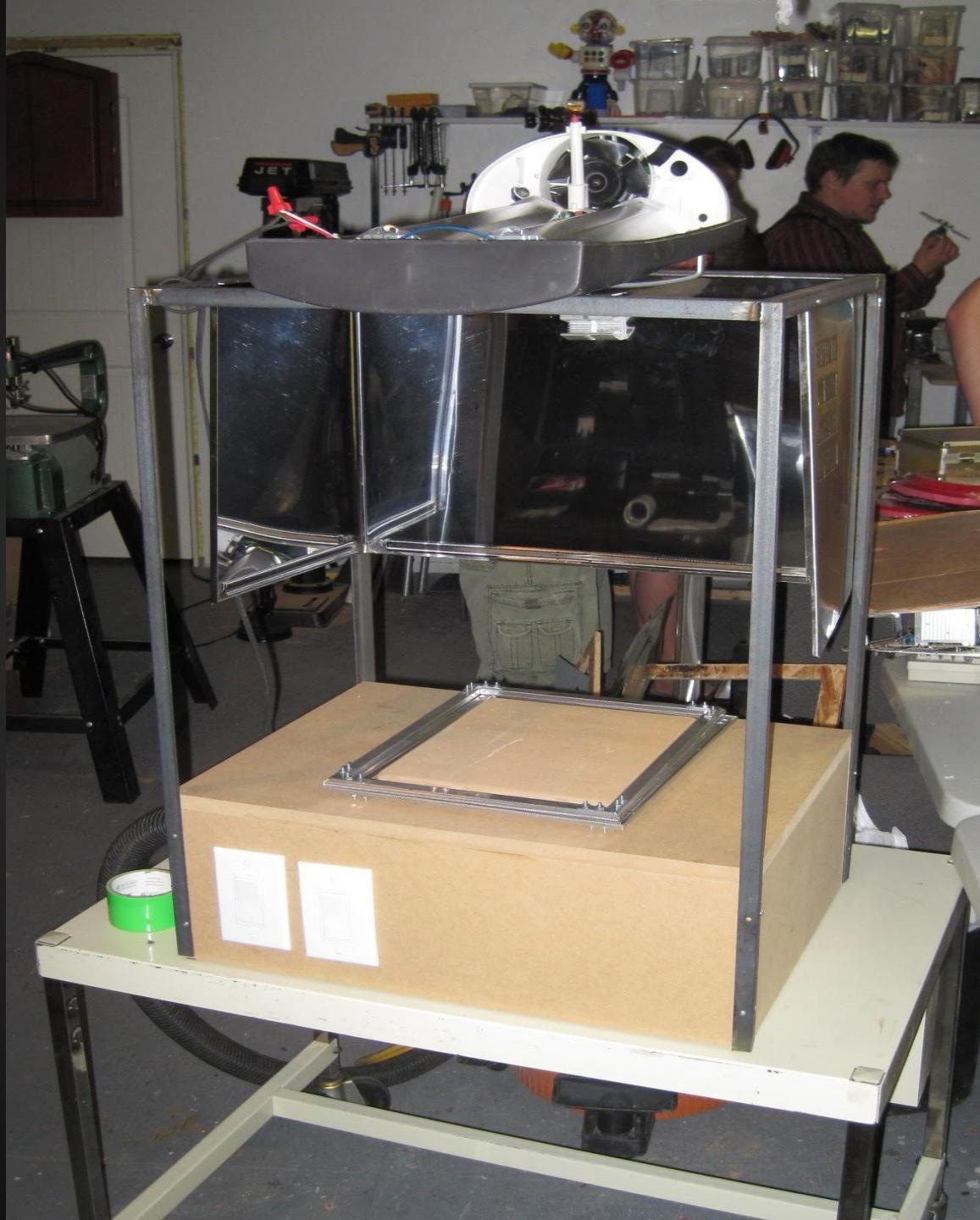
<< People that share some common ground with you.

.: Access to better tools / equipment / etc.

<< Donated tools. Pool resources to get nicer stuff.







# Why would you want to start a hackerspace?

Ultimately depends on what you want

.: Community

<< People that share some common ground with you.

.: Access to better tools / equipment / etc.

<< Donated tools. Pool resources to get nicer stuff.

.: Sharing knowledge

<< Asking AND answering questions.

# Why would you want to start a hackerspace?

Ultimately depends on what you want

## .: Community

<< People that share some common ground with you.

## .: Access to better tools / equipment / etc.

<< Donated tools. Pool resources to get nicer stuff.

## .: Sharing knowledge

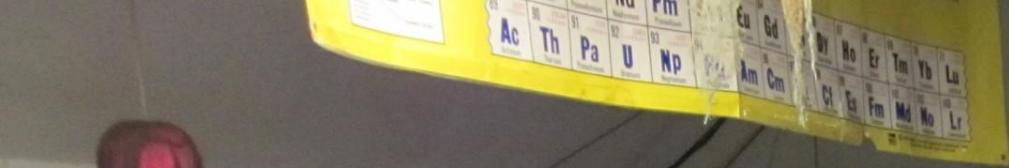
<< Asking AND answering questions.

## .: Fun

<< Shenanigans, Pranks, General Silliness















# Why would you want to start a hackerspace?

Ultimately depends on what you want

## .: Community

<< People that share some common ground with you.

## .: Access to better tools / equipment / etc.

<< Donated tools. Pool resources to get nicer stuff.

## .: Sharing knowledge

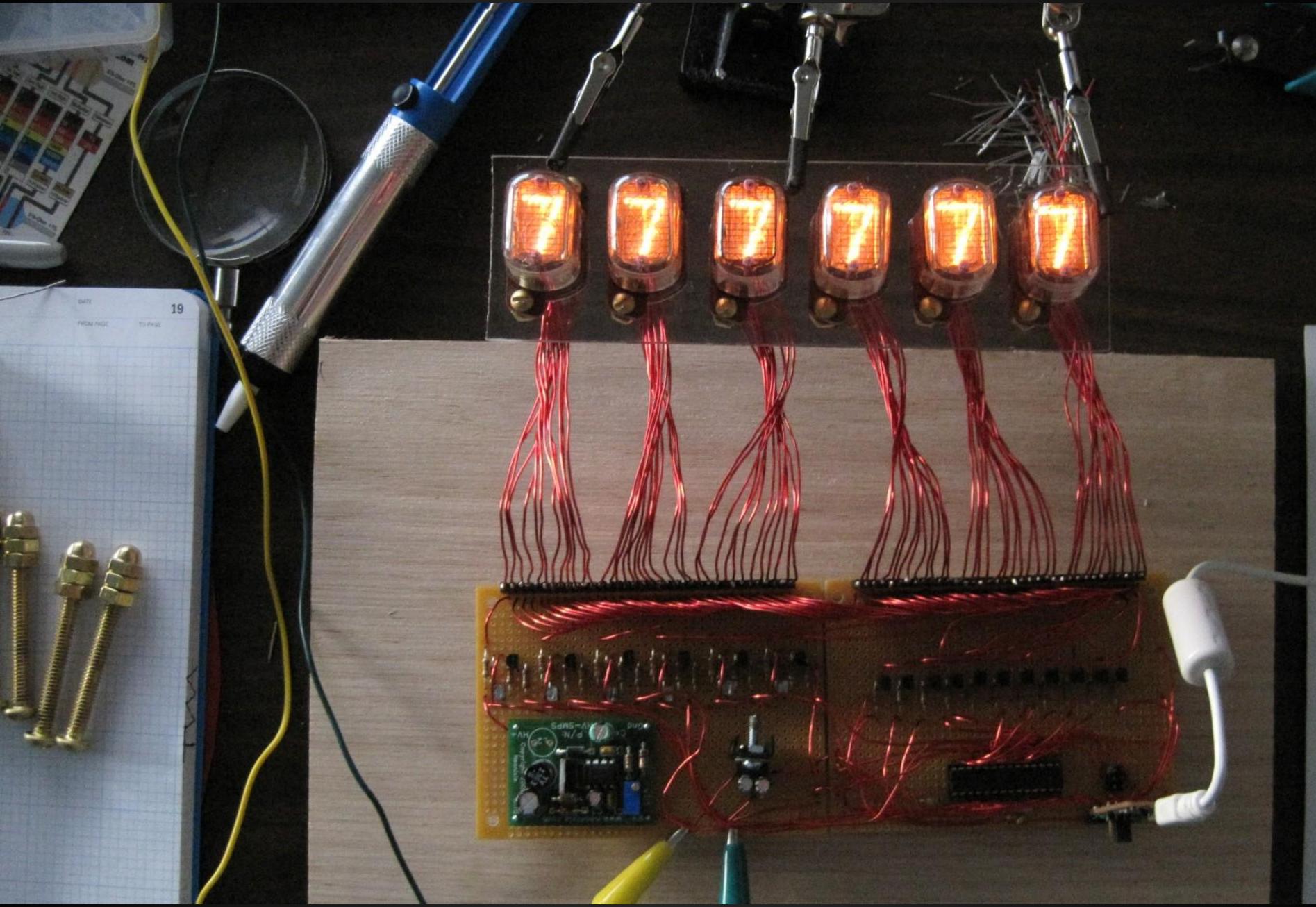
<< Asking AND answering questions.

## .: Fun

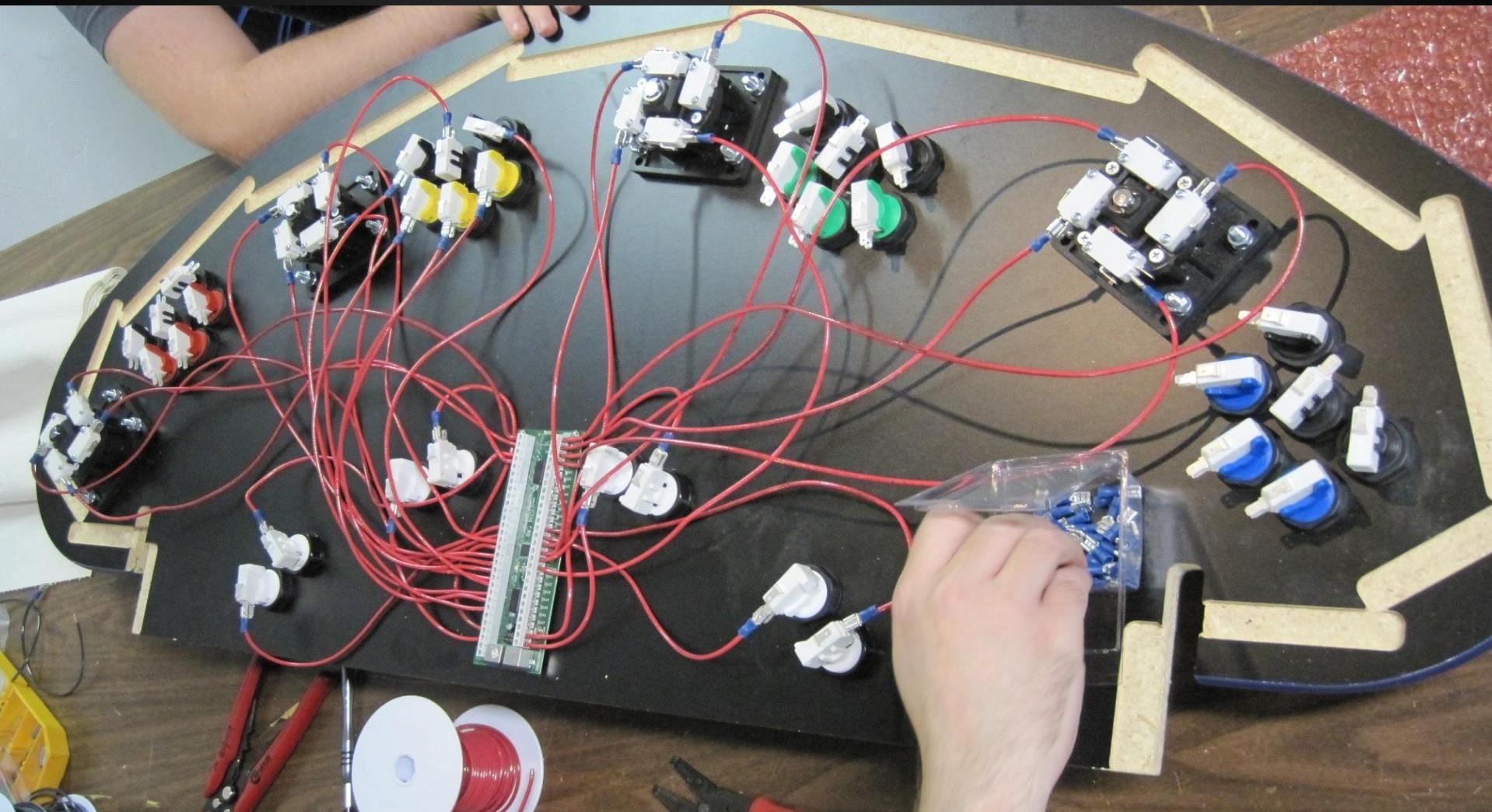
<< Shenanigans, Pranks, General Silliness

## .: A place for projects you don't want at home

<< Large projects, dangerous projects, obscene projects...











ABSOLUTELY  
NO  
HARD BALL  
SOFT BALL  
FIELD ONLY

KEEP THE  
CHANGE

@thetransistor

mame  
multiple arcade machine emulator

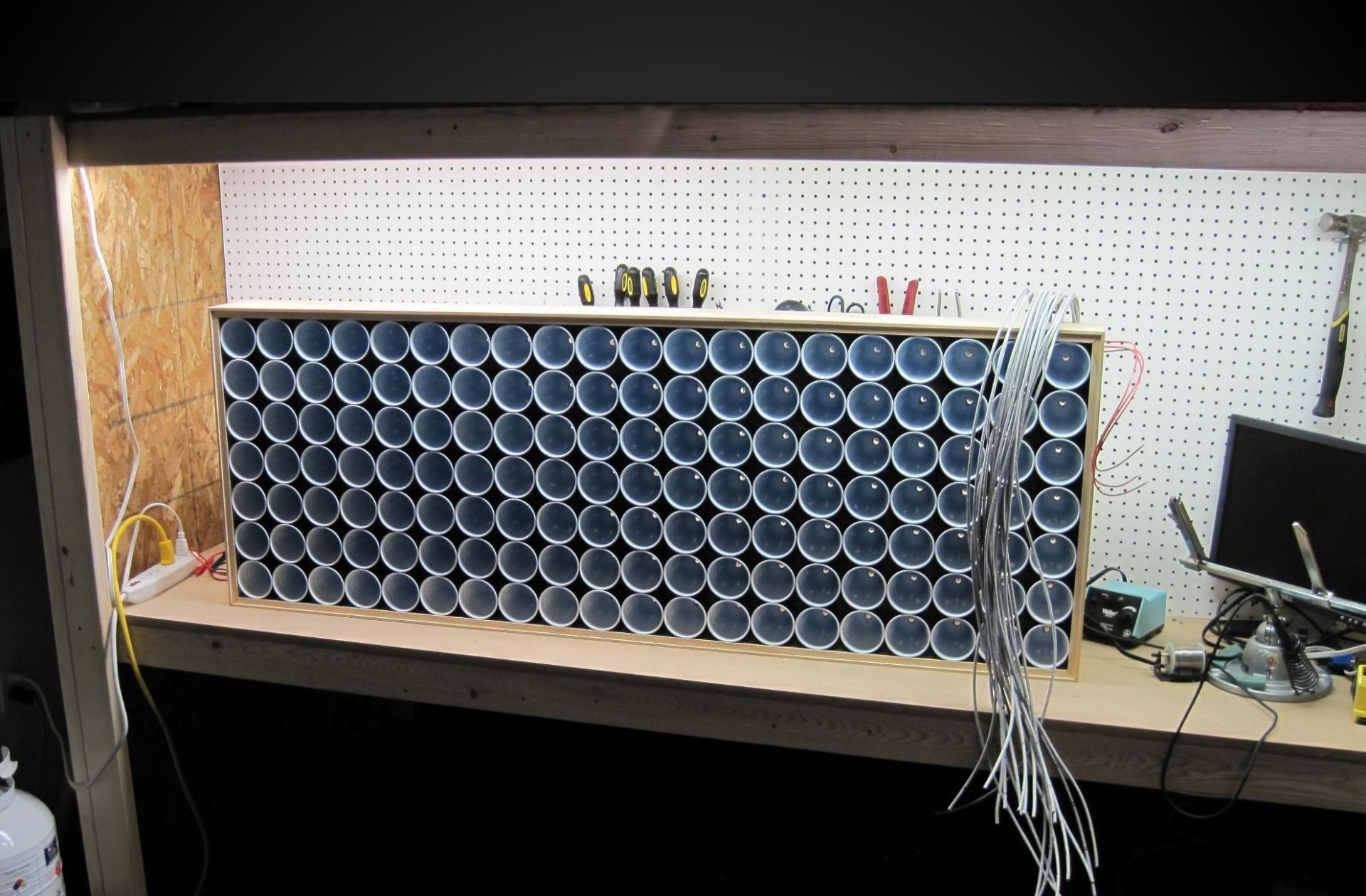














High Voltage



SHINE

YOUR GEEK

integration



# The Hacker Ethic:

# The Hacker Ethic:

As Levy summarized in the preface of Hackers, the general tenets or principles of hacker ethic include:

.: Sharing

# The Hacker Ethic:

As Levy summarized in the preface of Hackers, the general tenets or principles of hacker ethic include:

- :: Sharing
- :: Openness

# The Hacker Ethic:

As Levy summarized in the preface of Hackers, the general tenets or principles of hacker ethic include:

- :: Sharing
- :: Openness
- :: Decentralization

# The Hacker Ethic:

As Levy summarized in the preface of Hackers, the general tenets or principles of hacker ethic include:

- :: Sharing
- :: Openness
- :: Decentralization
- :: Free access to computers

# The Hacker Ethic:

As Levy summarized in the preface of Hackers, the general tenets or principles of hacker ethic include:

- :: Sharing
- :: Openness
- :: Decentralization
- :: Free access to computers
- :: World Improvement

# The Hacker Ethic:

At MIT the hacker ethic actually describes the qualities that a 'hack' (a covert modification to the MIT campus) must have. It must:

# The Hacker Ethic:

At MIT the hacker ethic actually describes the qualities that a 'hack' (a covert modification to the MIT campus) must have. It must:

.: be safe

# The Hacker Ethic:

At MIT the hacker ethic actually describes the qualities that a 'hack' (a covert modification to the MIT campus) must have. It must:

- .: be safe
- .: not damage anything

# The Hacker Ethic:

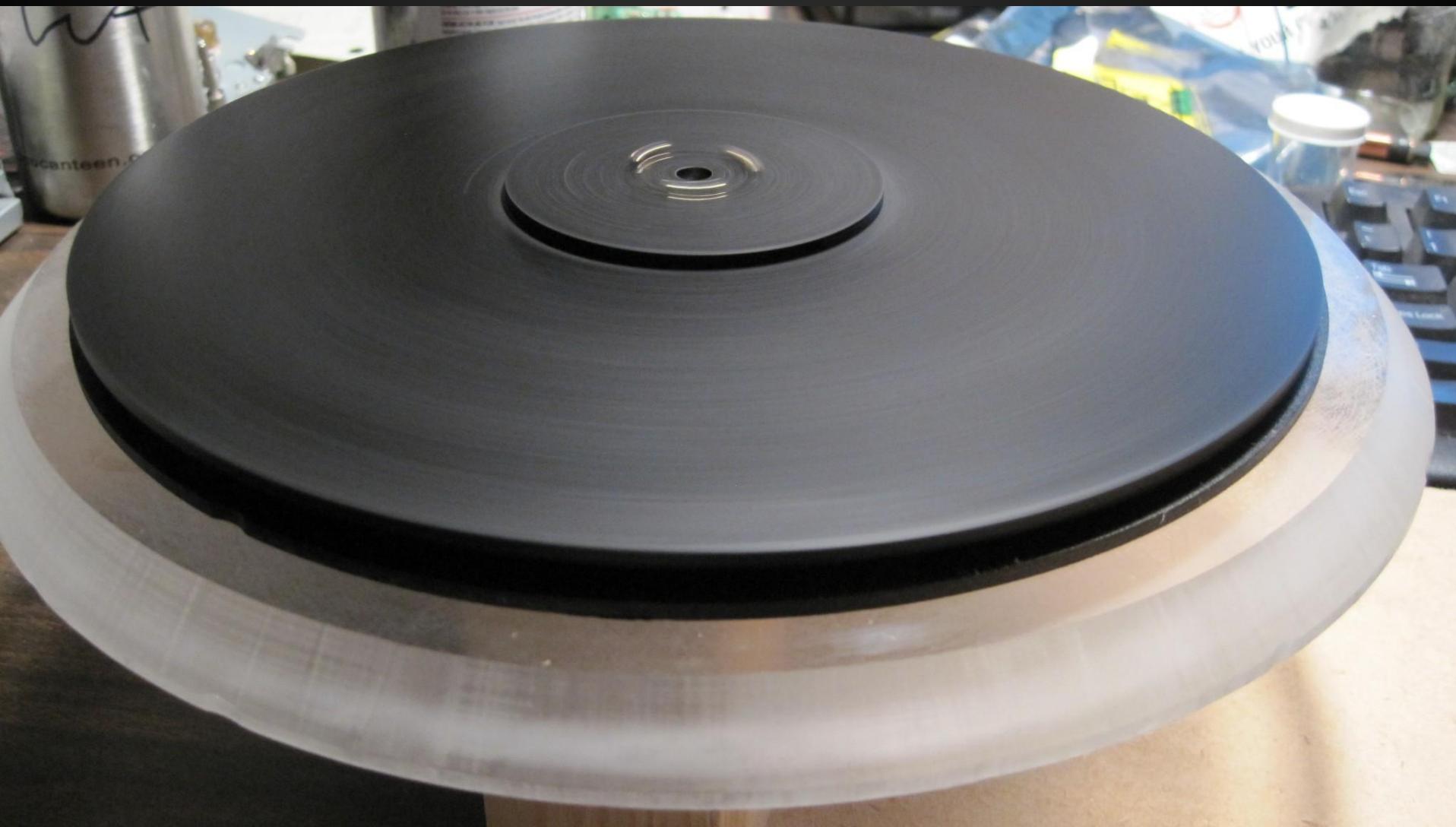
At MIT the hacker ethic actually describes the qualities that a 'hack' (a covert modification to the MIT campus) must have. It must:

- .: be safe
- .: not damage anything
- .: not damage anyone, either physically, mentally or emotionally

# The Hacker Ethic:

At MIT the hacker ethic actually describes the qualities that a 'hack' (a covert modification to the MIT campus) must have. It must:

- .: be safe
- .: not damage anything
- .: not damage anyone, either physically, mentally or emotionally
- .: be funny, at least to most of the people who experience it





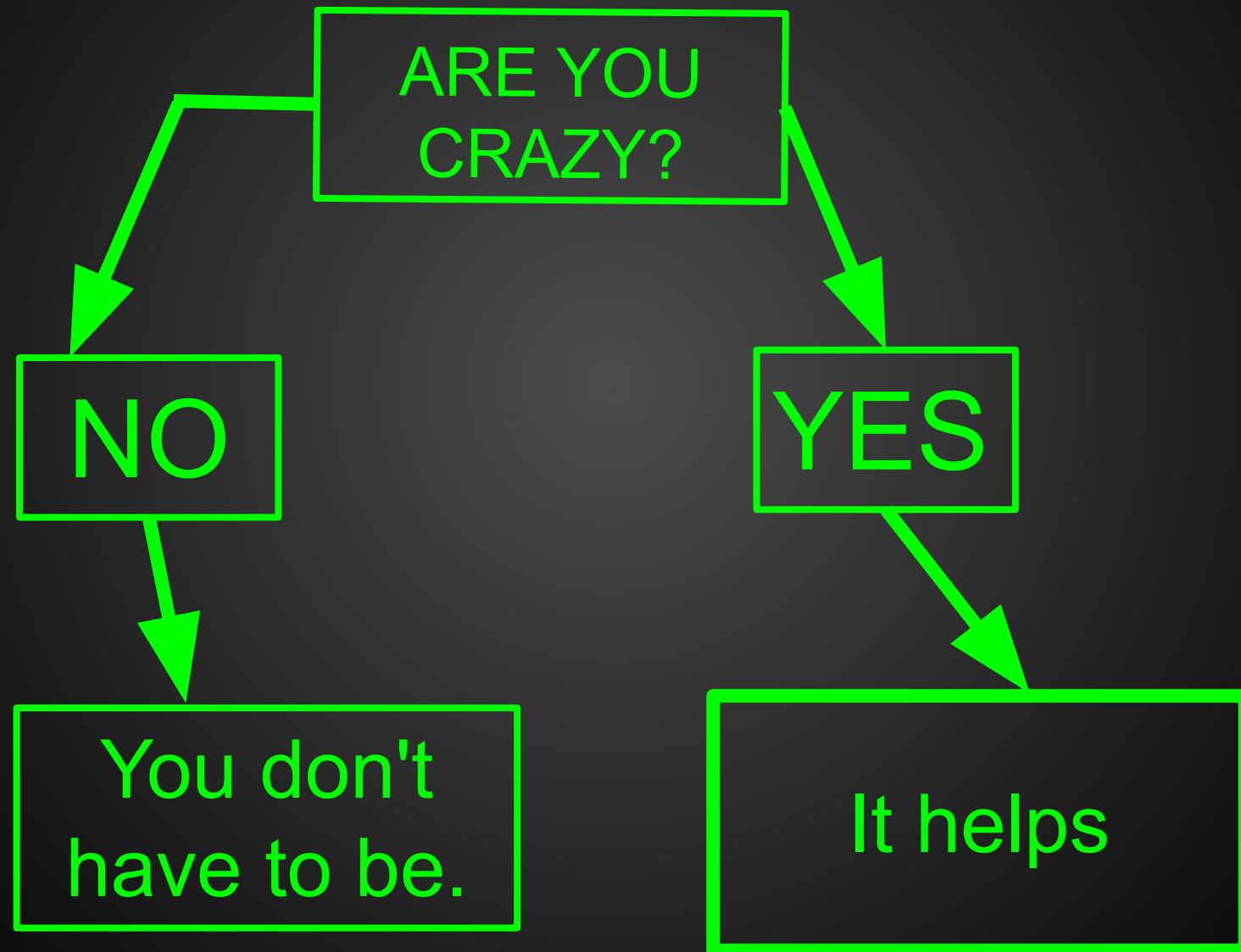


**Sweet. I want to start one!**

**Sweet. I want to start one!**

**ARE YOU  
CRAZY?**

# Sweet. I want to start one!



integration

CREDIT CARD  
with manager



# **Sweet. I want to start one!**

**Step 0 - Is there an existing hackerspace nearby?**

(If so, you should visit it and see if it meets your needs)

# **Sweet. I want to start one!**

**Step 0 - Is there an existing hackerspace nearby?**

(If so, you should visit it and see if it meets your needs)

**Step 1 - Find your Founders.**

(How do I find them?, Who will they be?, You need at least 4-10)

# **Sweet. I want to start one!**

## **Step 0 - Is there an existing hackerspace nearby?**

(If so, you should visit it and see if it meets your needs)

## **Step 1 - Find your Founders.**

(How do I find them?, Who will they be?, You need at least 4-10)

## **Step 2 - Setup a meeting with the Founders**

(Determine what you want from the hackerspace, funding, etc)

(Setup a time / place for future meetings / contact / etc)

# **Sweet. I want to start one!**

## **Step 0 - Is there an existing hackerspace nearby?**

(If so, you should visit it and see if it meets your needs)

## **Step 1 - Find your Founders.**

(How do I find them?, Who will they be?, You need at least 4-10)

## **Step 2 - Setup a meeting with the Founders**

(Determine what you want from the hackerspace, funding, etc)

(Setup a time / place for future meetings / contact / etc)

## **Step 3- Setup a legal entity for your group**

(Consult a lawyer. I am not a lawyer.)

# **Sweet. I want to start one!**

## **Step 0 - Is there an existing hackerspace nearby?**

(If so, you should visit it and see if it meets your needs)

## **Step 1 - Find your Founders.**

(How do I find them?, Who will they be?, You need at least 4-10)

## **Step 2 - Setup a meeting with the Founders**

(Determine what you want from the hackerspace, funding, etc)

(Setup a time / place for future meetings / contact / etc)

## **Step 3- Setup a legal entity for your group**

(Consult a lawyer. I am not a lawyer.)

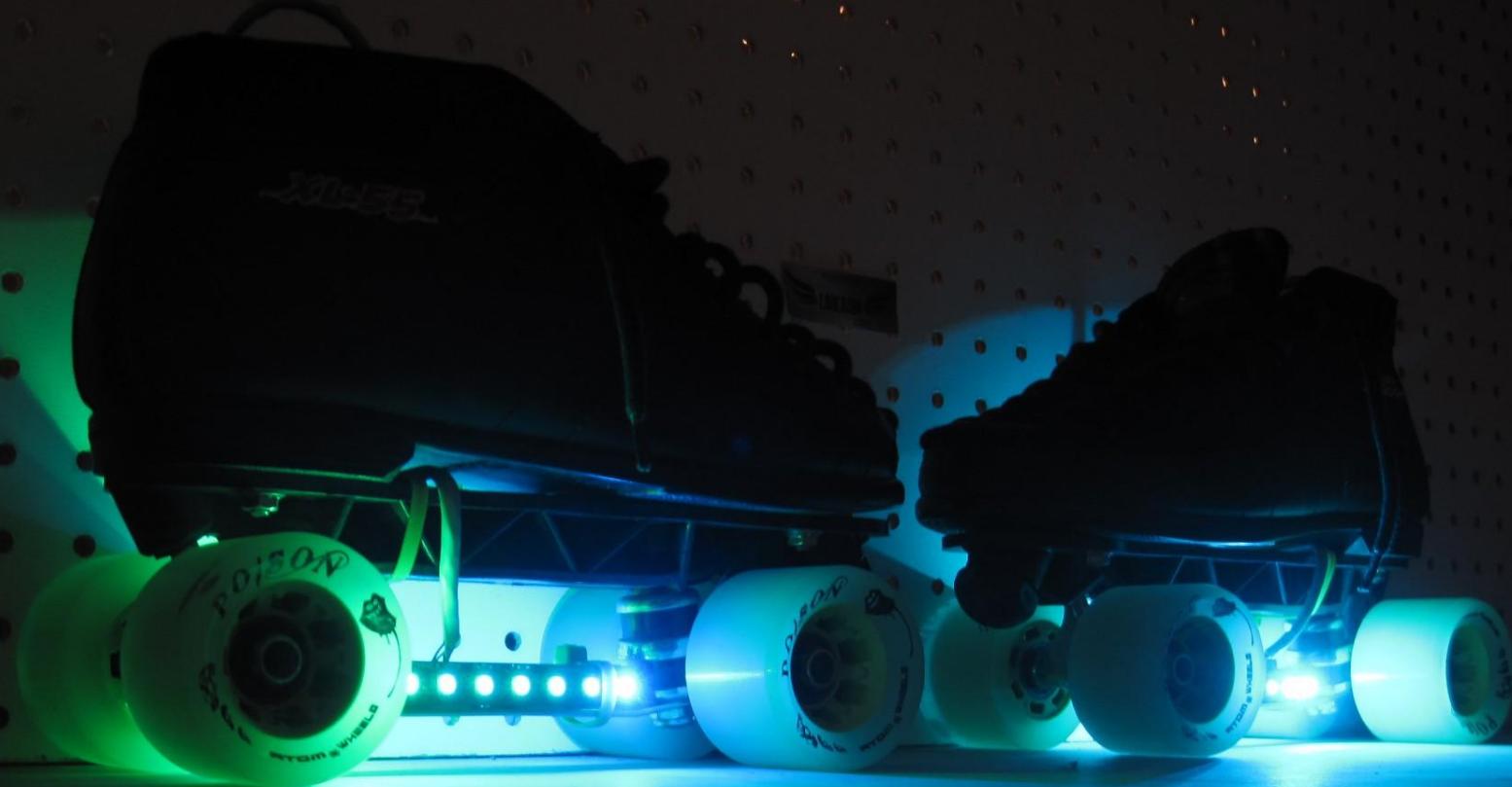
## **Step 4- Build and improve your space**

(Start small and improve. A hackerspace should be fun.)



I SEE YOU'RE PLAYING **STUPID** AGAIN . . .  
LOOKS LIKE YOU'RE WINNING TOO.





# Stay in contact:

# **Stay in contact:**

**.: Easy**  
**Facebook / Google Plus**

# **Stay in contact:**

**.: Easy**  
**Facebook / Google Plus**

**.: Medium**  
**IRC: Freenode is free**  
**Yahoo Groups, Google Groups, etc**

# **Stay in contact:**

**.: Easy**

**Facebook / Google Plus**

**.: Medium**

**IRC: Freenode is free**

**Yahoo Groups, Google Groups, etc**

**.: Hard (relative)**

**Setup your own website, Mailing lists, etc**

# Define things you may want!

# Define things you may want!

**..: Stick to your core!**

<< Don't set up a huge workshop if everyone wants to do electronics and software.

# Define things you may want!

## .: Stick to your core!

<< Don't set up a huge workshop if everyone wants to do electronics and software.

## .: Dirty Space vs Clean Space

<< Keep the electronics / hang out / collaborative areas clean, and the away from the dirty areas like a workshop.

# Define things you may want!

## ∴ Stick to your core!

<< Don't set up a huge workshop if everyone wants to do electronics and software.

## ∴ Dirty Space vs Clean Space

<< Keep the electronics / hang out / collaborative areas clean, and the away from the dirty areas like a workshop.

## ∴ Power Requirements

<< If you only have 40 amps of power, you aren't going to run 20 computers, an AC unit or two, and the soldering stations.

# Define things you may want!

## ∴ Stick to your core!

<< Don't set up a huge workshop if everyone wants to do electronics and software.

## ∴ Dirty Space vs Clean Space

<< Keep the electronics / hang out / collaborative areas clean, and the away from the dirty areas like a workshop.

## ∴ Power Requirements

<< If you only have 40 amps of power, you aren't going to run 20 computers, an AC unit or two, and the soldering stations.

## ∴ Internet

<< This might actually be something you NEED. Don't forget router, switches, etc.

# Define things you may want!

## ∴ Stick to your core!

<< Don't set up a huge workshop if everyone wants to do electronics and software.

## ∴ Dirty Space vs Clean Space

<< Keep the electronics / hang out / collaborative areas clean, and the away from the dirty areas like a workshop.

## ∴ Power Requirements

<< If you only have 40 amps of power, you aren't going to run 20 computers, an AC unit or two, and the soldering stations.

## ∴ Internet

<< This might actually be something you NEED. Don't forget router, switches, etc.

## ∴ Future growth

<< What kinds of things do you want in the future.



# **Things that every space will want:**

# Things that every space will want:

## **.: Access to food**

(you need to eat, you will forget to bring food)

# Things that every space will want:

## .: Access to food

(you need to eat, you will forget to bring food)

## .: Lounge Area

(chillout space. sometimes you need a break)

# Things that every space will want:

## **.: Access to food**

(you need to eat, you will forget to bring food)

## **.: Lounge Area**

(chillout space. sometimes you need a break)

## **.: Bathrooms**

(must. avoid. jokes.)

# Things that every space will want:

## **.: Access to food**

(you need to eat, you will forget to bring food)

## **.: Lounge Area**

(chillout space. sometimes you need a break)

## **.: Bathrooms**

(must. avoid. jokes.)

## **.: Organization**

(contact methods, meetings, physical organization)

# Things that every space will want:

## **.: Access to food**

(you need to eat, you will forget to bring food)

## **.: Lounge Area**

(chillout space. sometimes you need a break)

## **.: Bathrooms**

(must. avoid. jokes.)

## **.: Organization**

(contact methods, meetings, physical organization)

## **.: Legal Info**

(Contact a lawyer. The brave could contact the internet)

(You will likely want waivers, basic legal entity, etc)

# Legal Considerations

# Legal Considerations

**..: TALK TO A LAWYER:  
=> I AM NOT A LAWYER.**

# **Legal Considerations**

**.: TALK TO A LAWYER:  
=> I AM NOT A LAWYER.**

**.: Not every group will need to consult a lawyer.**

# **Legal Considerations**

**.: TALK TO A LAWYER:  
=> I AM NOT A LAWYER.**

- .: Not every group will need to consult a lawyer.**
- .: You can register most businesses online:  
[osbr.utah.gov](http://osbr.utah.gov)**

# **Legal Considerations**

**.: TALK TO A LAWYER:  
<< I AM NOT A LAWYER.**

- .: Not every group will need to consult a lawyer.**
- .: You can register most businesses online:  
[osbr.utah.gov](http://osbr.utah.gov)**
- .: There are benefits to setting up under a legal entity:**

# Legal Considerations

**..: TALK TO A LAWYER:  
  << I AM NOT A LAWYER.**

- ..: Not every group will need to consult a lawyer.**
- ..: You can register most businesses online:  
    osbr.utah.gov**
- ..: There are benefits to setting up under a legal entity:**
  - << 401(c)(3) - A federal non-profit. Donations can be written off on donators taxes.**
  - << Helps mitigate liability**
  - << Protects the entire group**





# Potential Hackerspace Locations

# Potential Hackerspace Locations

## .: Temporary Locations

(not 24/7, maybe an unused room for weekly meetings)

<< Work. Extra room?, Conference Room?

<< Schools

<< Apartment / Condo Clubhouse

<< Coffee Shop / Deli / etc

<< Other hackerspaces / clubs / groups

<< MakeSLC ran out of HackSLC for almost 6 months until we moved to Provo

# Potential Hackerspace Locations

## .: Temporary Locations

(not 24/7, maybe an unused room for weekly meetings)

<< Work. Extra room?, Conference Room?

<< Schools

<< Apartment / Condo Clubhouse

<< Coffee Shop / Deli / etc

<< Other hackerspaces / clubs / groups

<< MakeSLC ran out of HackSLC for almost 6 months until we moved to Provo

## .: Permanent Locations

<< Ask EVERYONE

<< Craigslist / KSL

<< Realty Companies

**You found a space! Awesome!**





















LABCANDY

3



# You found a space! Awesome!

.: Before you sign a lease talk to a lawyer.

# You found a space! Awesome!

**.· Before you sign a lease talk to a lawyer.**

**<<At a bare minimum READ EVERYTHING**

# You found a space! Awesome!

**.: Before you sign a lease talk to a lawyer.**

<< At a bare minimum READ EVERYTHING

<< are you personally liable for the lease?

# You found a space! Awesome!

**.: Before you sign a lease talk to a lawyer.**

<< At a bare minimum READ EVERYTHING

<< are you personally liable for the lease?

<< what exactly does this lease entail?

# You found a space! Awesome!

.: Before you sign a lease talk to a lawyer.

<< At a bare minimum READ EVERYTHING

<< are you personally liable for the lease?

<< what exactly does this lease entail?

.: Is the space up to code?

# You found a space! Awesome!

.: Before you sign a lease talk to a lawyer.

<< At a bare minimum READ EVERYTHING

<< are you personally liable for the lease?

<< what exactly does this lease entail?

.: Is the space up to code?

<< (electrical, assembly, fire, etc)

# You found a space! Awesome!

.: Before you sign a lease talk to a lawyer.

<< At a bare minimum READ EVERYTHING

<< are you personally liable for the lease?

<< what exactly does this lease entail?

.: Is the space up to code?

<< (electrical, assembly, fire, etc)

<< can you be held liable if it's not?

# You found a space! Awesome!

.: Before you sign a lease talk to a lawyer.

<< At a bare minimum READ EVERYTHING

<< are you personally liable for the lease?

<< what exactly does this lease entail?

.: Is the space up to code?

<< (electrical, assembly, fire, etc)

<< can you be held liable if it's not?

<< are there other codes that just apply to your group?

# You found a space! Awesome!

## .: Before you sign a lease talk to a lawyer.

<< At a bare minimum READ EVERYTHING

<< are you personally liable for the lease?

<< what exactly does this lease entail?

## .: Is the space up to code?

<< (electrical, assembly, fire, etc)

<< can you be held liable if it's not?

<< are there other codes that just apply to your group?

<< should you care? (probably)

# You found a space! Awesome!

## .: Before you sign a lease talk to a lawyer.

<< At a bare minimum READ EVERYTHING

<< are you personally liable for the lease?

<< what exactly does this lease entail?

## .: Is the space up to code?

<< (electrical, assembly, fire, etc)

<< can you be held liable if it's not?

<< are there other codes that just apply to your group?

<< should you care? (probably)

## .: Liability Waivers?

# You found a space! Awesome!

## .: Before you sign a lease talk to a lawyer.

<< At a bare minimum READ EVERYTHING

<< are you personally liable for the lease?

<< what exactly does this lease entail?

## .: Is the space up to code?

<< (electrical, assembly, fire, etc)

<< can you be held liable if it's not?

<< are there other codes that just apply to your group?

<< should you care? (probably)

## .: Liability Waivers?

<< probably should have them

# You found a space! Awesome!

## .: Before you sign a lease talk to a lawyer.

<< At a bare minimum READ EVERYTHING

<< are you personally liable for the lease?

<< what exactly does this lease entail?

## .: Is the space up to code?

<< (electrical, assembly, fire, etc)

<< can you be held liable if it's not?

<< are there other codes that just apply to your group?

<< should you care? (probably)

## .: Liability Waivers?

<< probably should have them

<< might not need them if you are just using computers

# You found a space! Awesome!

## .: Before you sign a lease talk to a lawyer.

<< At a bare minimum READ EVERYTHING

<< are you personally liable for the lease?

<< what exactly does this lease entail?

## .: Is the space up to code?

<< (electrical, assembly, fire, etc)

<< can you be held liable if it's not?

<< are there other codes that just apply to your group?

<< should you care? (probably)

## .: Liability Waivers?

<< probably should have them

<< might not need them if you are just using computers

<< but you probably want them anyways

# Important randoms

# Important randoms

**∴ Make a layout / plan for the space**

<< be prepared to refactor the layout

# **Important randoms**

**.: Make a layout / plan for the space**

<< be prepared to refactor the layout

**.: Listen to everyone**

<< hold regular meetings

<< vote on important things

# **Important randoms**

**.: Make a layout / plan for the space**

<< be prepared to refactor the layout

**.: Listen to everyone**

<< hold regular meetings

<< vote on important things

**.: Maintain a SUDO group**

# **Important randoms**

**.: Make a layout / plan for the space**

<< be prepared to refactor the layout

**.: Listen to everyone**

<< hold regular meetings

<< vote on important things

**.: Maintain a SUDO group**

**.: Involve everyone**

<< group projects

<< group outings, visit other groups, see cool stuff

# **Important randoms**

**.: Make a layout / plan for the space**

<< be prepared to refactor the layout

**.: Listen to everyone**

<< hold regular meetings

<< vote on important things

**.: Maintain a SUDO group**

**.: Involve everyone**

<< group projects

<< group outings, visit other groups, see cool stuff

**.: Always improve the group / space**

# **Important randoms**

**.: Make a layout / plan for the space**

<< be prepared to refactor the layout

**.: Listen to everyone**

<< hold regular meetings

<< vote on important things

**.: Maintain a SUDO group**

**.: Involve everyone**

<< group projects

<< group outings, visit other groups, see cool stuff

**.: Always improve the group / space**

**.: Expand only when absolutely needed**





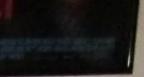


WIFI PASSWORD:  
free.internet





WIFI PASSWORD:  
free.internet



**What have our (HackSLC /  
TheTransistor) Pitfalls and  
Rewards been?**

# **What have our (HackSLC / TheTransistor) Pitfalls and Rewards been?**

**(I'm a bad-news first kind of a  
person, so let's do the pitfalls first.)**

# Pitfalls



# Pitfalls

**.: Not sticking to our own rules can cause anarchy.**

**<< Sometimes this is nice.**

**<< Most of the time it's just unwanted drama.**

# Pitfalls

.: Not listening to members

<< They get upset

<< They leave the group



# Pitfalls

.: Not including everyone

<< Members feel left out, bored

<< They leave the group



# Pitfalls

.: Not sticking to core needs

<< If you focus on fringe wants,  
less will get done.

<< It's harder to complete core  
projects if the space is  
configured for something else.

# Pitfalls

**.: Not sticking to core needs**

**EXAMPLE:**

# Pitfalls

## .: Not sticking to core needs

### EXAMPLE:

#### The situation:

<< Our members wanted a large workshop area, so we dedicated about 1/3rd of the space to that.

<< The space was rarely used.

<< About 90% of what the members wanted was electronics and software-based.

# Pitfalls

## .: Not sticking to core needs

### EXAMPLE:

#### The situation:

<< Our members wanted a large workshop area, so we dedicated about 1/3rd of the space to that.

<< The space was rarely used.

<< About 90% of what the members wanted was electronics and software-based.

#### In response:

<< We scaled the workshop back to about 5-10% of the space.

<< We added a ton of personal desk space

<< We upgraded the network / servers

<< We allocated more space to electronics

# Pitfalls

## .: Not sticking to core needs

### EXAMPLE:

#### The situation:

<< Our members wanted a large workshop area, so we dedicated about 1/3rd of the space to that.

<< The space was rarely used.

<< About 90% of what the members wanted was electronics and software-based.

#### In response:

<< We scaled the workshop back to about 5-10% of the space.

<< We added a ton of personal desk space

<< We upgraded the network / servers

<< We allocated more space to electronics

#### The result:

<< Members had a better time! More projects got done, and more members joined.

# Pitfalls

.: Not sticking to core needs

EXAMPLE:

The Lesson:

<< If you don't stick to your core needs, you're gonna have a bad time.



# Pitfalls

**∴ Trying to please everyone**

**<< Every member needs a voice, but  
you need to focus on the needs of the  
group**

**<< Try to keep everyone happy, but  
realize you are going to have to upset  
some members.**

# Rewards

# Rewards

.: Everyone is happy, has a good time

# Rewards

**.: Everyone is happy, has a good time**

**.: Projects get completed**

# Rewards

- .: Everyone is happy, has a good time**
- .: Projects get completed**
- .: New ideas are formed**

# Rewards

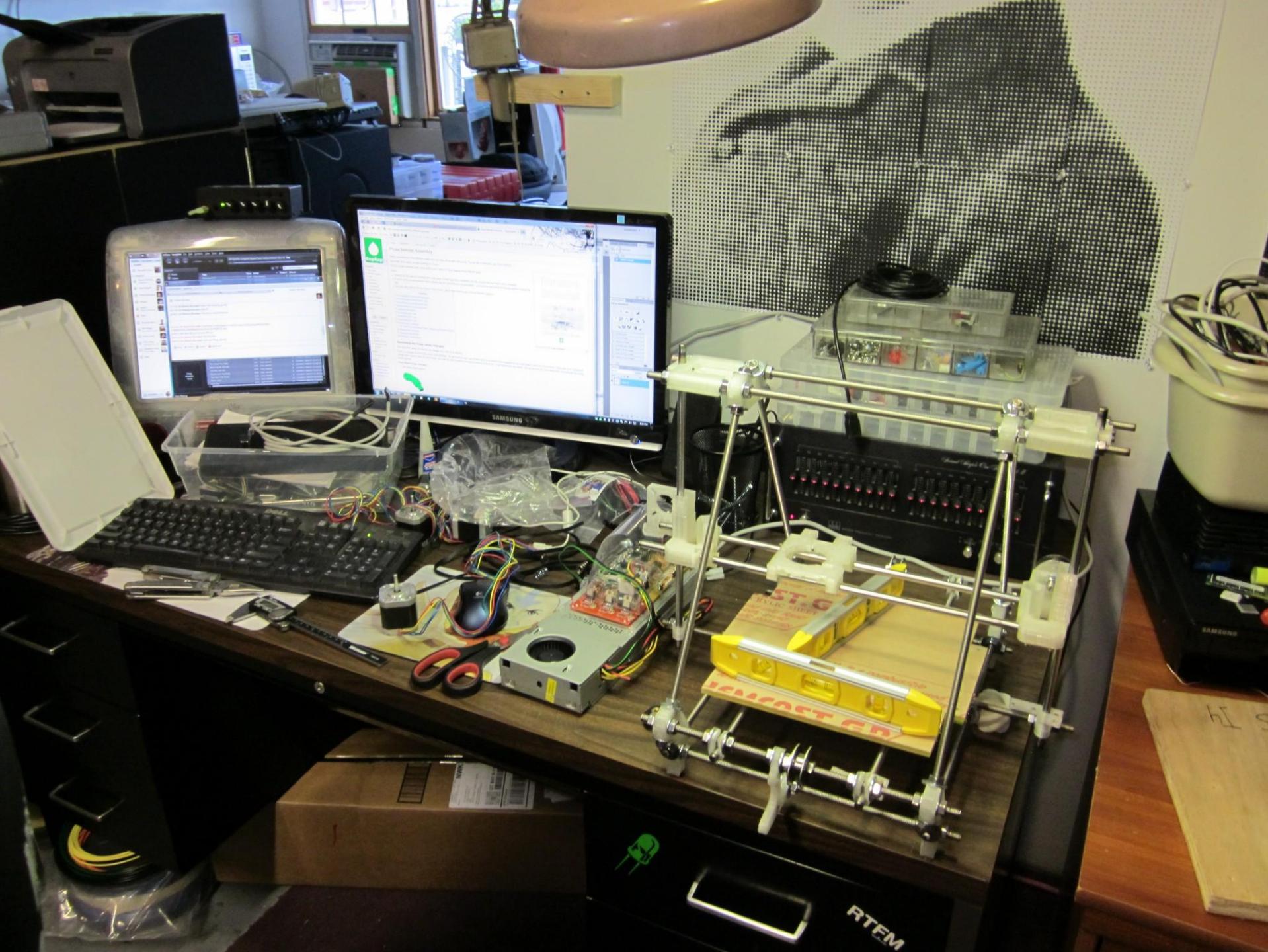
- .: Everyone is happy, has a good time**
- .: Projects get completed**
- .: New ideas are formed**
- .: Software, Hardware is developed and shared**

# Rewards

- .: Everyone is happy, has a good time**
- .: Projects get completed**
- .: New ideas are formed**
- .: Software, Hardware is developed and shared**
- .: The entire group contributes to projects**

**shop-vac**  
Wet/Dry  
Quiet Series  
**5 U.S. GAL 18.9 L**  
**2.0 HP P.O.**









PRODUCED  
BY LANCARDY.com

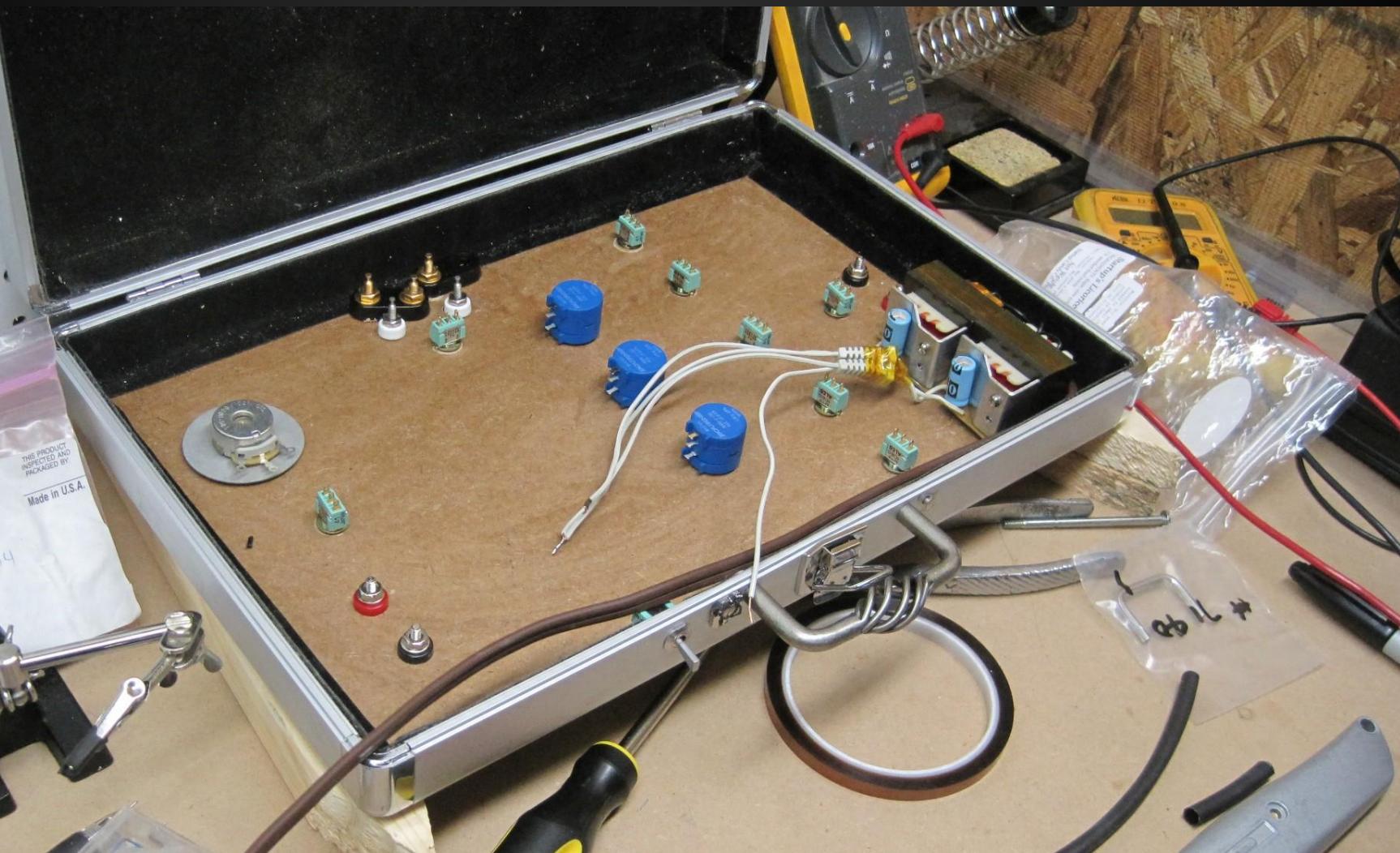
GAT® RDI

Quality and Innovation

150 Parley Road, Carol Stream, Illinois 60166

THIS PRODUCT  
IS INSPECTED AND  
PACKAGED BY:  
  
Made in U.S.A.

25V-04  
4



# Additional Resources

**:: Hackerspace design patterns**

<< [http://hackerspaces.org/wiki/Design\\_Patterns](http://hackerspaces.org/wiki/Design_Patterns)

**:: Utah One Stop Business Registration**

<< <http://osbr.utah.gov>

**:: Google / The Internet**

<< The internet is your friend. Tons of resources.

**:: Other Hackerspaces**

<< Generally VERY helpful. Contact them.

# QUESTIONS?

