

Bike

1. Does it make sense to continue having Bike be a floorspace-having zone, or could it be combined into a dedicated shelf in the tool crib? (Previous answers have been, keep it separate so people don't abuse/misuse bike tools. Would keeping the orange color but moving it to a shelf in the crib be feasible?) - jody
 - a. When the first zone coordinator survey came out, I suggested that the bike zone be located near the tool crib because there's an opportunity to share tools across the two zones. My hesitation in combining the zones is really that there are some bike repairs that require floor space. I would not want to relegate the bike zone to a shelf in the tool crib if that means someone working with a bike on our bicycle workstand ends up blocking access to areas of the tool crib. There are some tools for wheel repair that require a bench to use, also. Also, I think the bike zone would need more than a shelf for proper organization and storage of spare parts. Probably most of the bike tools could be hung on a section of the tool crib wall. I could probably get behind combining the zones if we could tape off an area on the floor for bike repairs to take priority. Anyhow, these are my initial thoughts, let's continue the discussion.

Classroom

1. Based on usage, is the current classroom a good size? Would it be better if it was larger/smaller?
 - a. The size is fine.
2. Is there desire for more dedicated storage in/around the classroom (cabinets, closets, etc.)
 - a. No cabinets or closets are needed.
3. **MRC** - This question was posed to conference room people (since everyone knows what the classroom is) not asked here since classroom people probably don't know what conference room people are envisioning
 - a. (also asked in "conference room section) Would the "classroom" and "conference room" concepts logically be the same thing? Should there be two, and if so, what differentiates them?

Clean Commons/Multimedia

1. Is the desire to hold member meetings to this zone? If so what improvements do you think can be made to improve the AV experience for attendees? (Better sound and video capture for remote and improved visual aids for meat-space attendees)
 - a. Member Meetings: Depends on which side commons area is bigger. I am guessing A is going to be dirty side and remain the larger commons area. The clean side commons area will be whatever space is left over from floor planning. I am not expecting to have a lot of room for tables. If the clean/quiet side is large enough, then it would be much better for meetings.

- b. Is there problems with the current hangouts? No plan to add equipment, except a large tv. No budget for anything new expected, except new work tables and enough chairs to fill both sides.
2. Would the photography equipment make sense to be stored the media lab?
 - a. The space would not have any photography equipment except for rolls of paper backdrops that would be stored in place of use (on the rolls, ready to pull down and use). People would bring their own cameras, flashes, etc. The photography equipment for a real studio is way too much money for i3 to buy.

CNC

1. Has sufficient member interest been shown in getting a CNC lathe or additional mill that a pass-the hat could fund their purchase?
 - a. I don't think at this time a new CNC lathe or mill is something that would put enough money in the pass-the-hat to allow a purchase but..... there is a new member that may be in a position over the next year or so to help with finances for this. Talk of a CNC lathe has been going on for years and would be a really great asset to the zone. A smaller easier to learn CNC mill would be nice to have as well, in addition to our Haas baby.
2. Do you not want any primarily-wood CNCs in your zone at all, or just planning to evict the one which is currently there?
 - a. No plans to evict Steve:) If given a choice I'd prefer the CNC wood router to be in the Wood Shop Zone for dust collection. large sheet goods handling and equipment floor space allocation. Also, cutting wood is a different knowledge base for tooling, feeds/speeds, fixturing etc. than metal. There is serious talk of getting a larger CNC wood router and in that case I think it should be in the Wood Zone as the aforementioned reasons then get magnified. If the Wood Zone is just not comfortable with taking on a CNC router, we'll make it work in the CNC Zone.

Craft Room

1. Since craft room is thinking about absorbing vinyl, letterpress, silkscreening, etc. what is the range of crafts that craft room wants to support and will there be any one or two types of crafts focused on?
 - a. You've given the concrete range really well :D . I'm also looking to support picture matting and frame assembly, plus odds-and-ends like the glue guns. Much like the current Craft Room, the goal is NOT to overspecialize. A generalist set of core fixtures like the cutting mat table, plus movable/extensible "focused" tables, provide more flexibility.
2. Does craft want to be in an enclosed room, or would a clearly defined space that is open to the rest of the shop be acceptable (assuming that shop area is 'clean')?
 - a. I like some enclosure; walls make for great storage. Being open with clear boundaries can work too--it's OK working alone, but it's even better with people watching.
3. For climate control: heat or heat+AC?
 - a. AC is nice but optional.

Elab

1. For climate control: heat or heat+AC?
 - a. Air conditioning is massively helpful, not just for comfort's sake, but also for humidity control, which is essential to keep some of the instruments within their operating parameters.

Fab lab

1. q

Injection molding

1. **MRC** - Rephrased this question: How many active users does the injection molding zone have? What is the trend in this number? Is an increase in floorspace expected to grow the user base?
 - a. Not to harp, but this zone still seems to largely be a "Thad makes minecraft stuff" only zone. I know that it's *available* to anybody to learn and use, but given the high bar of entry, how realistic is it as a wide-use tool? (if other people are using it, and it's getting classes and things that I just missed, please tell me.) -jody
 - b. Currently 2 active users. Right now we have 3 new members talking to me about projects. It will probably always be small but for someone who is trying to hack their way into injection molding, you can't beat what we have. We don't need an increase in floor space and I don't think it would grow the user base right now.

Jewelry

1. Q - (discussed on slack) Are the kilns able to be shared with Forge/Foundry?-jody
 - a. Not really. Jewelry's kilns are expected to be much smaller and cleaner, not really the same thing at all.
2. Q - (discussed on Slack) Will the kilns be gas or electric? And if gas, will they use canisters/bottles/tanks, or will they need access to the space's natural gas?
 - a. There will be one of each, a hotter gas and a not-as-hot electric (the one we have now). The gas will run off propane bottles, no need to use space gas.

Kilns

1. q

Laser

1. q

Leather

1. q

Machine shop

1. q

Media lab

1. Do you have a preference between all-interior walls and some exterior walls (potential for exterior light)
 - a. I don't mind having either all-interior or some exterior walls, as long as there is an enclosed, dust free area for computers and printers.
2. If the print room was separated from the computer room as you describe, should they be adjacent to each other?
 - a. The print room and the computer room do not have to be separate but if the computer room is in the current eLab, I'd rather not squish all the printers into that one room as well. So the current craft room would be a nice solution for the printers in that given scenario. But overall, the computer and print room are not required to be adjacent to each other but it would be nice.

Tool crib

1. Should we maybe have two cribs or maybe one main crib and a satellite crib, one on each side?
 - a. The tool crib is a supplement to other zones that have their own tools and equipment but don't need duplicates of all the equipment. At least two tool crib areas would be good especially if there are multiple common work areas. They'd specialize based on what sort of zones surround them.

Vinyl

1. Q - Is this actually combining with craft like discussed?

Welding

1. Q - Can you do something about the noise? Grinder whine is really getting old.
 - a. Not sure, but looking into it. I'm worried it might involve walls. I'm hoping that building work booths along one wall, which can be insulated/isolated, will help with that.

Wood shop

1. q

Automotive

1. Cost estimate for exhaust extraction for idling vehicles/is that necessary?
 - a. We can probably have a extraction through the garage door, just means a hose and hole in the garage door, hose can be around \$100-200 something like this:



2. Cost estimate on auto lift?
 - a. New would be \$1500-\$2500, craigslist would be cheaper around 1k
3. How will you handle vehicles being abandoned at the space?
 - a. This would have to be under discussion, in my past my rule was no overnight work, without prior approval, if the car is abandoned, i don't mind towing the vehicle to the street with my truck
4. Will fire suppression be required, beyond having a couple fire extinguishers around? (We'll probably get the answer to that from the CoO process and/or the fire marshal. If more work is needed, I'd like to see the people who want this to participate)
 - a. I would just have dedicated one just for this space, the other fire codes will need to be addressed with the city fire marshal

Conference room

1. **MRC** - Combined these two into: What differentiates this zone from the clean commons or classroom? Why should it exist in addition to either/both of the others?
 - a. Q- How will this space be different than a clean commons, or the classroom, especially if one or both of those areas had rules prohibiting "dirty" activities?
 - b. (Also asked in "Classroom" section) Would the "classroom" and "conference room" concepts logically be the same thing? Should there be two, and if so, what differentiates them?
2. What do you define as prohibited "dirty" activities?

Chemistry

1. Q- What kind of supplies would this zone provide? Just containers? Chemical components as well?
 - a. A fume cabinet would be the most important part here, the bigger the better. It could be shared with other shop purposes, so long as the chemistry zone (or

someone) sets very specific rules. Providing chemicals for experiments should be up to the member, so long as it does not lead to mass duplication.

2. What kind of PPE will the zone provide?
 - a. Depends on what we want to do. Besides a fire extinguisher and the aforementioned fume cabinet, I personally will probably bring my own.
3. Will there be fume hoods/ventilation, etc?
 - a. A fume cabinet is kind of a necessity, but as previously stated it could be shared with other purposes, so long as strict rules are set. The fume cabinet could be purchased or built (see <https://www.youtube.com/watch?v=fP3gqnXFRC4>)
4. How will disposal work?
 - a. Disposal is up to the individual member, and there shall be strict rules about labelling in the case that the member in charge of a given chemical disappears.
5. What would be the minimum viable space for a chem lab? Is being in an enclosed room necessary? Could the zone function as a small dedicated area in an open shop with, for example, a lab table, a storage cabinet, and a fume hood?
 - a. The minimum viable space is dictated by how large of a fume cabinet we can afford. Being enclosed isn't necessary if the fume cabinet is large enough to contain any experiments going on. I think a small dedicated area in an open shop with a fume cabinet, lab table, and storage cabinets (acids, bases, oxidizers, reducing agents and glassware/equipment necessitates at least five separate cabinets [which don't need to be large]) would be a really good start.
6. **MRC:** Response in full
 - a. To my mind, so long as safety is a primary concern from the outset, a chemistry lab is something that can start small and ramp up if there is enough interest. So, assuming a reasonably-sized fume cabinet, the zone could be otherwise in an open area. Additionally, the fume cabinet could be of a shared-purpose variety, so long as some clear rules are set up for what is and isn't allowed in the fume cabinet. Paint, for example, should remain in the existing paint booth, as decorating the insides of a fume cabinet with permanent flammables seems ill-advised. The zone could provide glassware, and if it does, it'll probably be bootstrapped from my very small collection. Additionally, while chemical storage would definitely be nice, I'm of the opinion that the actual chemicals themselves, for the most part should be the responsibility of the member using the facilities. This means that chemicals stored in the zone would need to be reviewed regularly and chemicals stored without proper labelling (name, phone number, and disposal instructions [or a catalog number to a database of chemicals on the wiki]) would probably trigger a camera review. The zone could perhaps provide a few lab standards, if certain supplies start showing up in duplicate from different members. These would probably, for the most part, be chemicals that exist in some form in the space already. Since chemical storage is also a generally needed thing in the space, this also could be a way to consolidate storage of some of the space's general chemicals in a space with clearly-defined rules. PPE could be zone-provided, in which case splash goggles, lab coats, rubber

aprons, gloves and face shields would be appropriate. Gas masks will be explicitly disallowed, as anyone needing a gas mask is misusing the fume cabinet and endangering other members.

Foundry/Forge

1. Q - Will fire suppression be required, beyond having a couple fire extinguishers around? (We'll probably get the answer to that from the CoO process and/or the fire marshal. If more work is needed, I'd like to see the people who want this to participate)
2. Q- What fuel do you expect to use for the getting-metal-hot part?
 - a. Most likely, either a propane forge or natural gas. If the latter (cheaper and cleaner long run), it will need to be piped similarly to the heaters. It might require special permits, and possibly contacting the utility. The ZC+helpers are more than willing to do the leg-work on this.

Kitchen

1. Q - Will fire suppression be required, beyond having a couple fire extinguishers around? (We'll probably get the answer to that from the CoO process and/or the fire marshal. If more work is needed, I'd like to see the people who want this to participate)
 - a. If we end up getting a commercial stove or certain other types of equipment, then an overhead dry chem system would be a good idea but otherwise fire extinguishers are sufficient.
2. Q- Has a final ZC been decided, or will the Board be expected to pick?
 - a. Zone Coordinator is still undecided. Charlie will be back tonight and we'll be discussing a bunch of kitchen zone details.
3. Is a commercial or residential kitchen desired?
 - a. I think a hybrid kitchen would be best. Start with what we can get easily which will almost certainly be used residential equipment. We can upgrade individual items to commercial as needed or as is convenient and as we have the money. Any residential equipment that meets our needs would be kept as-is. I'm planning on running the zone as a completely self-sufficient zone starting with the minimum equipment necessary and using box funds and hat passing and equipment donations to expand into a fully-equipped culinary Mecca. I don't see the zone becoming fully commercial and there is no plans for the zone to become a production facility for home food businesses.

Glass blowing

1. Are there any rules this zone would need to abide by which aren't covered by forging or welding? (Will fire suppression be required, beyond having a couple fire extinguishers around? (We'll probably get the answer to that from the CoO process and/or the fire marshal. If more work is needed, I'd like to see the people who want this to participate))
2. Would it make sense to have a Glassworking zone and pull in the stuff that's currently in Kiln?

3. Will it be possible/how much work would it be to start and stop the furnace as needed or will the furnace have to be continuously run once started?

Letterpress

1. Is letterpress planning to be a part of an expanded craft room?
 - a. That seems to be the current consensus, yes. Please keep me in the loop on related discussions you have with Craft -- thanks!

Lounge

1. How does this differ from the classroom, clean commons, or the old hangout space in the treehouse?

Electron Microscopy

1. Q - How delicate is this, really? The ones I've used before needed special dedicated (actually) clean rooms to function properly, including special noise dampening.
 - a. It's as delicate as any other electronic computer. The difference between the microscope and the average computer is that replacement parts have not been made in a long time. So lots of greasy metal dust in the air would not be great for uptime. Being in close proximity to the forge zone or whatever will affect performance, but I wouldn't worry about it unless people are running the power hammer all the time.
2. What kind of training will be required? Will members be able to be trained and operate it solo?
 - a. I'll know more about how difficult the training will be once I figure out how to run the microscope myself. I think people should be able to operate it solo but some people might have a more difficult time picking it up than others.

Paint Booth/Powder Coating

1. Are there more lax rules if the paint booth was located outside the building rather than in the main structure?
 - a. Painting outside of a building has far fewer regulations, especially with respect to fire regulations. However placing it outside misses the point of having a semi-climate controlled area to paint that isn't limited by the weather.
2. **MRC** - Modified this question: Is there a cost-effective way for this zone to abide by paint-booth regulations inside the building? How much would that cost and what limitations would be put on its operation?
 - a. Environmental Regulations: [This document](#) describes the requirements to be exempt from Michigan's [air pollution control regulations](#). Basically, we must spray less than 200 gallons of VOC/particulate (i.e. paint volume minus water content) per month. There is a form in the first link that must be filled out to keep track of monthly use and be made available to the Michigan DEQ. Users of the zone would need to fill this out, and the zone coordinator would need to maintain it.

This zone would also utilize the solvent disposal tanks that are set up in the second, rarely used, flammables cabinet for waste disposal.

- b. **Fire Regulations:** Spray booths are covered by National Fire Protection Association standard #33 (NFPA 33). [This page](#) has a good TLDR along with additional sources regarding compliance. The important bit is if we spray less than 1 litre per 8 hours (i.e. not a production shop) we're exempt. Otherwise automatic sprinkler/chemical fire suppression is required (and expensive).
- c. **Personal safety:** There are plenty of OSHA regulations which we should be exempt from having no employees. The ventilation system and filters built into a spray booth should handle most of the nasty stuff. The zone should keep a stock of safety masks, respirators/filters, and latex/nitrile gloves provided at cost.
- d. **HVAC:** Some kind of makeup air system may be required to prevent backdraft of furnace exhaust. Optionally an active makeup air system could heat the intake air. It is possible that a passive air intake vent (i.e. a hole in the wall covered by louvers) would suffice as well. For context, the blower in [this paint booth](#) is rated to pull about three times as much air as the [laser cutter exhaust fan](#).

Sewing

1. There are 9 sewing machine tables in the mock up. How many of those machines does i3 already own, and how many are planned for the future?
 - a. Short explanation, there are in reality 7 tables in the mock-up for machines, and we own 6 of them. One machine purchase is planned in that layout. Additional acquisitions would reshuffle the priority. One station is for member with their own.
 - b. Full explanation: There are 8 tables mapped currently. We have six machines now, and in that layout, 5 are accounted for with specific desks. #1 A serger (owned) table for the machine plus wall storage for thread and drawer storage for all things serger. #2 An embroidery station with wall storage for thread and everything embroidery related in drawers below the desk for the Designer SE (owned). #3 A sewing machine station with the Emerald (owned) and everything for that machine in its drawers. #4 is a work station for someone working on their own machine or one of ours without a dedicated table. #5 is for one machine we don't have yet, a walking foot/unison feed machine. #6 is the Singer industrial (owned) work station. #7 is the Juki industrial (owned) work station. The blank unlabeled table #8 may become the one for the second embroidery machine. It really depends. It might eventually turn into a shelf of machines with a work desk below. I'm expecting usage to grow so as it does, machines may move in priority and where they are parked. And what we eventually acquire. What looks like the 9th table is actually a commercial rolling rack (owned) for member projects and drying fabric. Actually, we might have 7 tables. The unlabeled one near the mirror/fitting room might really be the ironing station for the gravity fed iron (owned) installed. It's ultimately larger than our current ironing board and unlike the ironing board, is a permanent table fixture.