



UArts MID Thesis by Will McHale and Collaborators



okwagon: a local maker's database

by
Will McHale

A Thesis submitted in Partial Fulfillment
of the requirements for the Degree of

Master of Industrial Design
at
The University of the Arts



May 2010

© 2007
Will McHale
ALL RIGHTS RESERVED

*all photos not labeled are by Will McHale



Birds-eye View of Philadelphia, 1926 CS Hammond & Co.

Approved for the University of the Arts

Tony Guido (Chair ID Department)	Date
----------------------------------	------

Approved for the Master of Industrial Design Program

Jeremy Beaudry	Date
----------------	------

Chris Garvin	Date
--------------	------

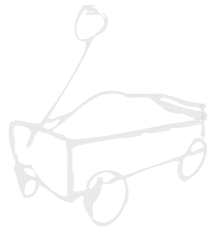


WORK SIGHTS: Industrial Philadelphia, 18v90-1950 Scranton, Licht

I would like to thank the following additional
collaborators and advisors who helped the project a great deal:

Meg Frisch
Jennie Shanker
Sara MacDonald
Josh Roberts
Johnathon Davis
Andrew Dahlgren
Stefanie Gentile
JJ Sereday
Spencer Hargiss
Hunter Augeri
Kyle Palmer
Kyle Mirro
Matt Trigaux
Ben Jewett
Dom Malandro

cover art (right vector art portion):
Tom Reynolds and Jackie Starker



Thank You+



WORK SIGHTS: Industrial Philadelphia, 18v90-1950 Scranton, Licht

Will McHale
MID Thesis Proposal
Spring 2009

okwagon: an online tool that empowers “bottom-up” makers in the Philadelphia area.

I am designing an online network interface that enables “bottom-up” makers in Philadelphia by allowing greater access to accurate, relevant, and constantly updated information. It will focus on the designer / artist / craftsman community initially. One of the primary goals is to link individuals and communities that have common interests and needs.

Why:

Other similar interfaces and web sites (google maps, etsy, thomas net, facebook, craig’s list, etc), though very useful, all have limitations. There are more local services, skills, material streams, etc. than are readily apparent from any existing online tool. It is critical that the proposed tool encourage physical interaction and making, highlighting the existing “nodes” in Philadelphia where this is already happening, extruding the virtual “google map searches” into the real topography.

Creating such a tool with an open-source approach will focus on enabling the “bottom-up” makers, ultimately allowing individuals and groups to have greater impact on their local economy and quality of life.

With more members, skills, and approaches, there will be more places where paths cross and new relationships and understandings are developed.

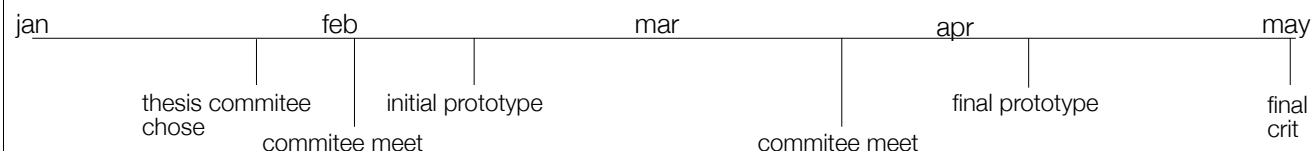
How:

1. Design a graphic interactive network interface that will elicit useful criticism.
2. Create methods of populating the site/ database that will foster and not limit the community.
3. Develop system for integrating other open source tools into the interface seamlessly.
4. Foster ties to the physical community by reaching out to established like minded groups and places.
5. Make sure there are opportunities within the interface where information streams cross and good accidents happen.

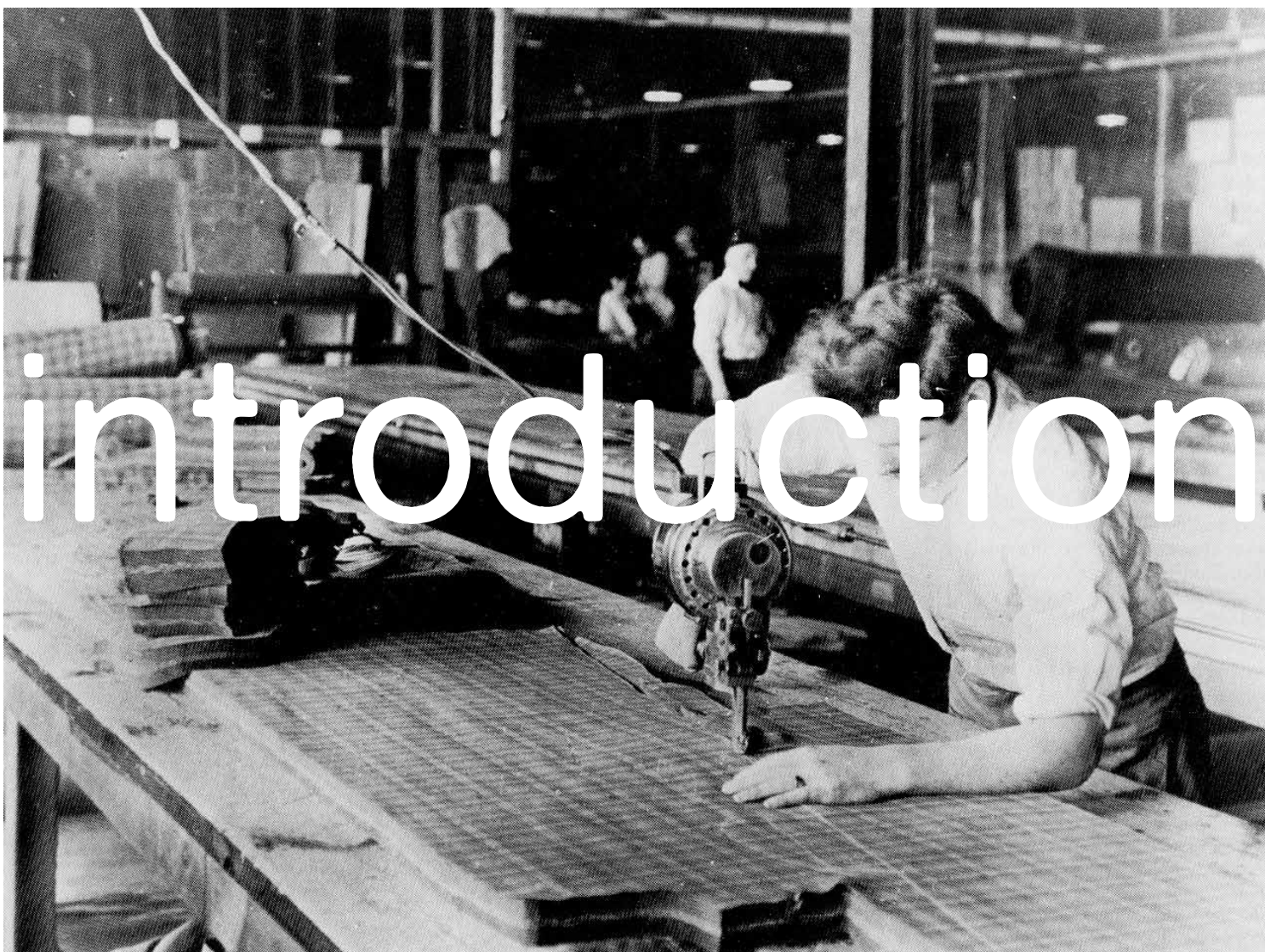
Deliverables:

1. A working graphic interface that is able to demonstrate the usefulness of the tool as laid out in the objectives.
2. A presentation intended for any audience that would effectively explain the design process that produced the tool.
3. A book that provides a broader discussion of the context, history, and implications of the project.

Timeline:



as proposed in Fall ‘09



WORK SIGHTS: Industrial Philadelphia, 18v90-1950 Scranton, Licht

1

In the foreword to the web site *workshopoftheworld.com*, Jon Bowie talks about Philadelphia and its dynamic 300 year history as an Industrial Giant:

“Unlike other American cities where industrial development centered on one particular product—such as Lowell with its textile industries, or Pittsburgh with its steel mills—Philadelphia is the home of an incredible, grand spectrum of developments that have influenced the very essence of American life. Since the early 1700’s, Philadelphia has seen inventions, products, machines, and ideas come from its people—first from German immigrants like William Rittenhouse, who operated the first paper-making mill in the Colonies in 1690, and daring mechanics like Oliver Evans, who revolutionized and totally automated the grain milling industry around the world in 1795, and visionaries like Henry Disston, whose millions of “Keystone” saws were produced by men who lived in company-provided housing units throughout Tacony from the 1870’s until recently, and the scientists and engineers at the University of Pennsylvania, who created ENIAC, the Electronic Numerical Integrator And Calculator, the world’s first large-scale digital computer in 1946.”¹

The city no longer produces on the scale it once did, with most of the industries discussed having left the city or closed shop. The buildings are now mostly vacated, being demolished, or being retrofitted into new live/work environments. Philadelphia has been changing rapidly since this

1 Workshop of the World- Philadelphia Web Site, ed. John R Bowie, <http://www.workshopoftheworld.com/>.

Before the Civil War, most masters lived close by their shops and mills, whether in densely settled Kensington or Northern Liberties or in the hollows of Germantown.

Shared problem solving was as routine matter, as was contracting out jobs to “competitors” when a rush of business arrived, “calling into service others’ machinery” as it was termed.

In such relations lay one key to Philadelphia’s special genius, its flexibility and specializations, its endless versatility, for the firm was not a closed box but a unit in a constantly shifting web of interconnected activities.

New products, ideas, solutions percolated through the city (some patented, most not) generating productive “external economies” that made the districts as a whole far more than the sum of their parts.



illustration of Philadelphia circa 1700s

WORKSHOP OF THE WORLD—A Selective Guide to the Industrial Archeology of Philadelphia
© Oliver Evans Press, 1990; adapted for the internet in 2007.

decline. “As the city moves toward the year 2000,” Bowie explains, “the manufacturing industries that made it great are steadily being replaced by service industries and the form of the city is evolving to reflect these changes.”²

The book that the *Workshop of the World* Web site is based on goes on to say that, “ Philadelphia could and did do nearly everything across the spectrum of transforming materials into products....Though it hosted some huge facilities, Philadelphia was known far better as an incubator for small enterprises, as a city packed with workshops and mid-size firms begun in many cases by workers or supervisors who “graduated” from employment to entrepreneurship.”³

Though Philadelphia lost most of its big industry as the global economy grew, some lighter and smaller industry still remains and might actually be re-establishing itself in parts of the city. Richard Florida, who writes about the service industry and the “creative class” in *Who’s Your City?* asks a high ranking official at a leading investment bank about rising real estate prices in NY. The official described Manhattan as a place where the “creative markets were located,” while ,”the actual production of creative and innovative work is moving beyond city limits to the outer boroughs, nearby cities in New Jersey, and even downtown Philadelphia.”⁴

Philadelphia, as of late, is in the exciting position of being able to recreate some of these more nimble smaller enterprises. There is a emergent culture here and abroad that is re-engaging with the man-made objects around them in new and exciting ways. People are not comfortable with just having

2 Workshop of the World- Philadelphia Web Site.

3 WORKSHOP OF THE WORLD—A Selective Guide to the Industrial Archeology of Philadelphia, Oliver Evans Press, 1990

4 Florida, Richard. *Who’s Your City?: How the Creative Economy Is Making Where to Live the Most Important Decision of Your Life*. Basic Books. 2008



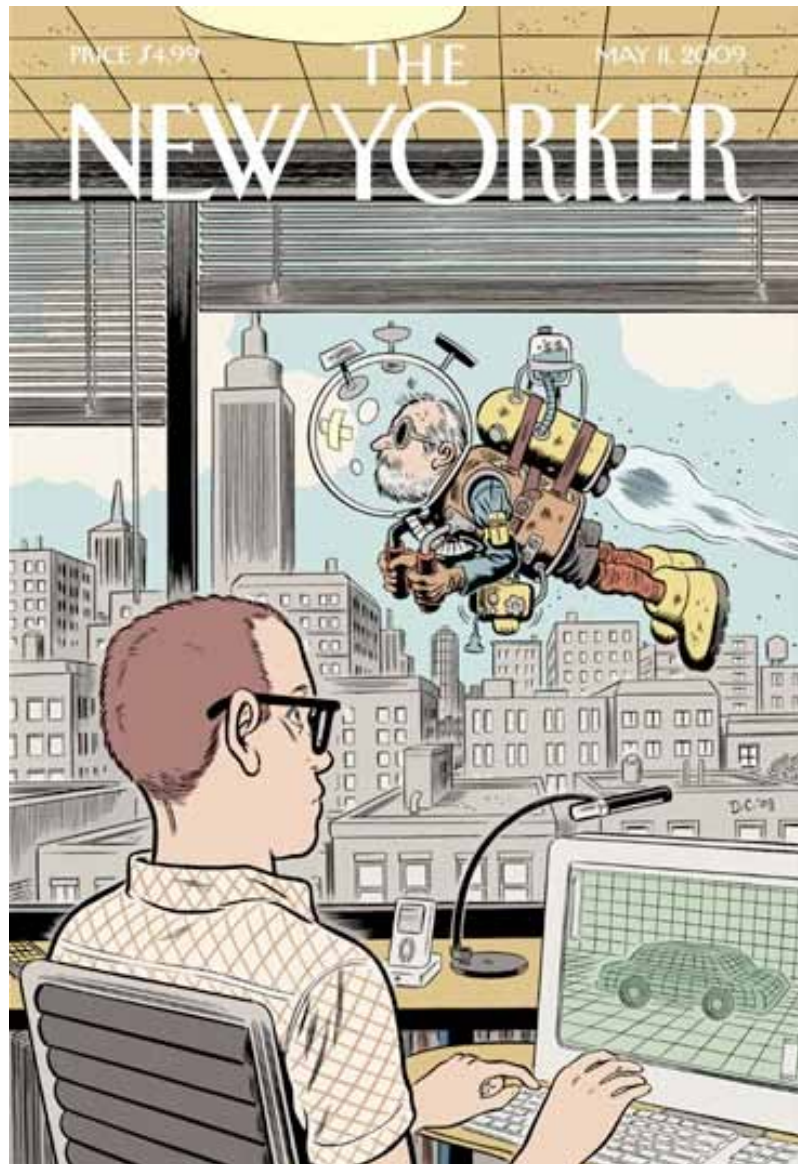
WORK SIGHTS: Industrial Philadelphia, 18v90-1950 Scranton, Licht

products and services, but want to have a hand in the “making of” and “the how.” They want to know more and do more. Through DIY, hacking, crafts, and by new technological means, there is a small revolution happening under our feet that is proactively seeking out ways and means of making again.

Along with this quiet “making revolution,” there are concurrent results of a digital evolution that have taken a hold of our culture. Social networking sites like Facebook and search engines like Google have changed the way we communicate. The internet is no longer just a technology tied to clunky pc’s on a desktop. The technology has become ubiquitous, infiltrating our day-to-day communications and bringing with it new ways of working.

These changes are not just with the way we communicate. There are new digital tools and software that affect the way we make the things that surround us, that are becoming more affordable and easier to use. Laser cutters, 3d printers, 3d scanners, CNC routers, and 3D modeling software are all within the reach of the individual maker now. The garage shop is no longer just for amateurs, tinkerers, or hackers. Professional prototyping and ideation can happen in these environments, in the smallest spaces funded by one or more individuals willing to make the leap.

Whether one is building a 3D printer, replicating a part of a 200 year old violin bow, or fabricating a working prototype for a client, there is likely someone else in the local community with similar interests who could help move the project forward in a significant way- by either sharing a process, a specific tool, or a helpful resource. The question is: how does one find these people if they are outside of your immediate skill based network? This is where some of the already existing search and networking tools of the internet can sometimes fall short of expectations.



The New Yorker, May 11 2009

Philadelphia used to be a notable maker in the world. The question is, Can we put Philadelphia on the map again- from the bottom up? Let's take the initiative and "connect local crafts people, manufacturers, artists, and designers by visualizing these existing resource networks, production processes, and locations." Let us see where paths and needs cross and create a tool for communication that streamlines collaboration within the local community in order to strengthen Philadelphia's creative industries. By noticing and reacting to the potentials in our local community, let's create a way finding system for the proactive citizen-maker in Philadelphia.

In the following pages I will give some context to this proposal and explain why a simple digital tool can be a catalyst to the kind of growth that Philadelphia needs. In the first section, I will talk about how the thesis topic came to light. I will also speak briefly about my past as a maker and shop supervisor in a manner of full disclosure, as it offers some insight and understanding as to how I am approaching the topic. I will focus on the practical reasons why such a tool should exist, what similar current tool's limits are, and how leveraging new potential tools and the way we communicate and gather information can change the way we make.

In the second section, "context," I will go into the prior examples in history that have similar goals or effects, elaborating on the one tool/ technology that has made my project a possibility, the internet and the creation of the World Wide Web. This will shift into a discussion about the nature of the web and what it means for our economy and the way we work. Emergent intelligence and "open source" behaviors will be discussed- how these paradigm shifting understandings might be some of the only ways to address the size and complexity of the issues we are facing as a global system today.

There will be a section of photographs that follow that set the scene, showing the people, places, and tools that are part of the discussion.

After the brief interlude, I will illustrate how I moved through the actual steps of making the Okwagon tool by modeling what I hope the tool affords- collaboration. I will show what other tools I used to make the Maker Database I am proposing a possibility. This discussion will focus on practical design resolutions and how these came about through collaboration, user testing, and feedback. I will finish this section with a description of what we learned with the beta Okwagon site, and how this might affect its next iteration.

In the conclusion, I will pull back and talk about the larger theme that I hoped to address with the Okwagon tool- quality of life, how the way we work and the processes by which we live are what defines our lives. I will discuss personal hopes and goals of such simple tools like okwagon, and how leveraging these and the technologies they are based in sensitive and thoughtful ways can change the way we live for the better.

trade of skills and knowledge:

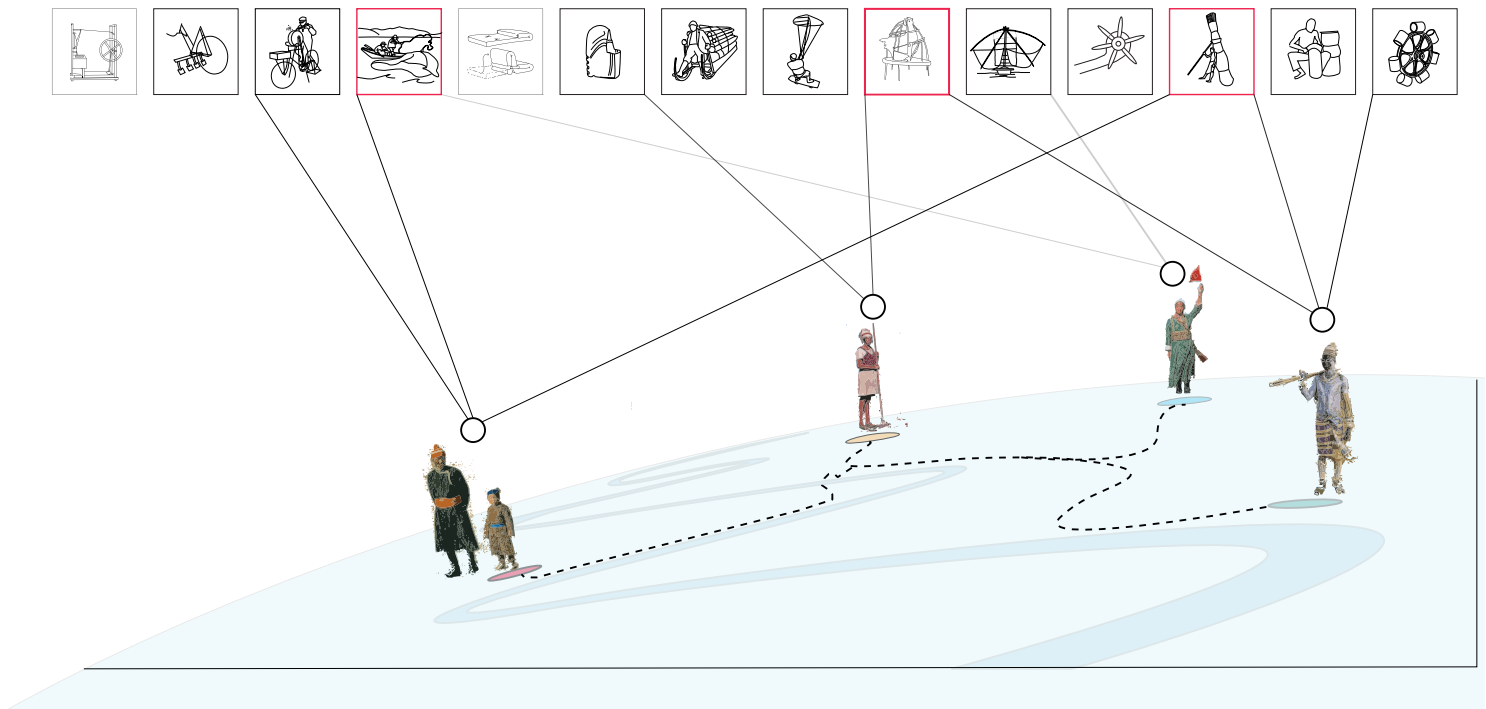


illustration of skill sharing from UArts ID Charette 2008. Will McHale, Rebecca Albrand, Jesse Gerard, and Jackie Starker



2

This project was initiated while working with Andrew Dahlgren during a period he was attempting to start TreeBoom, a small LLC based on his completed thesis work in the MID program at UArts that focused on sustainable local manufacturing. I had been working with Andrew for a project of my own in the MID program at that time. I was hoping to create an artifact or resource for ID Graduates based on Andrews post-graduate processes of writing a business plan, researching types of non-profits and business structures, and pulling together resources and funding to position himself as a Designer and Maker. During the process we both became aware that there was an opportunity for a more general tool that might be accessible to a larger audience.

The original idea was initially a simple listing of local resources that Andrew would incorporate into his web site that helped to promote and educate the local population about sustainable manufacturing and making. We discussed developing it further, turning it into a more interactive feature that promoted the idea of Philadelphia as a community, by making it a database capable of growth, updatable by visitors of the site that might find it useful as a tool. This was a simple idea, not much larger than a simple spreadsheet at the time, but with Andrew's experiences working with non-profits in the Philadelphia region, it seemed that even this alone would be an incredibly welcome addition that filled a gap.

It wasn't just through working with Andrew that I became aware of this need. Through the years I have worked as a carpenter, cabinet maker, builder, and shop supervisor. In the 90's I would often refer to the Yellow



I began this studio working with Andrew Dahlgren, helping develop his concept for a new company: TreeBoom. The concept for the company came from his theses work on “contextual manufacturing.”

Pages during searches for vendors, materials, and various professionals or trades if I could not attain the information I needed through a physical recommendation. This slowly was supplanted by the internet as it became more understood and used by the general population for general information gathering. I had gained a rather large rolodex of resources and skilled people to call on when needed during the 10 year period I worked in Atlanta Georgia. Most of this was acquired through relationships I formed while on the job, or working on personal projects. Many of the better resources were rather hidden, or removed from the collecting abilities of the internet by a filter of “old school” ways. Many of the people with greater skills and focus didn’t want to be bothered by the internet, and what’s more seemed to resent what this technology represented. This “older school” of thinking about work was based on an acquired innate sense of how to move through a project. Social relationships in the community were important. Knowing who-knows-how-to-do-what can be seen as an actual skill, and anything that seems to shortcut this, something that should not be trusted.

One such relationship I formed was through a metal fabricator that I worked with. We would occasionally take some of the larger gauge steel plates that needed bending or punching to an old very skilled recluse who had a collection of heavy old pneumatic equipment that was much more capable than what we had on hand. I was never really aware of fees involving use of the equipment. The owners were old friends, and would often help each other out on specific tasks.

What was interesting to me at the time was how few people knew of this amazing old industrial warehouse of equipment that was hiding down a half paved road and across some train tracks in an older unpopulated part of town. We worked regularly with other metal fabricators, and most of them would have to “sub” this type of work out to others.

I also worked as a Carpenter during this period and found it curious that the same types of relationships did not seem to exist for this trade in the

area of the South that I was in. I worked on high-end installations of built-in furniture and cabinetry for clients that could afford the best. I was a bit perplexed that there did not seem to be a lot of “best” to choose from. Many of the older skill sets that I saw in the metal working and machinist community had been supplanted by a newer crop of younger generation that often favored speed and the homogeneous wares and materials of Home Depot and Lowes over the traditional Sawmills and slower, quality driven craft production processes. It was because of my discomfort with this and my hesitancy to rely on these methods that I gained favor with the few companies I worked with as a better alternative to other options. It was too soon, however, as I was still learning. I would often lose money on jobs based on not charging clients for the time it would take me to learn a specific skill to deal with a new problem. I always felt it was something I should have known. The cost, in these scenarios, should not be carried over to the client.

This was a challenging period in which I learned many of the research-on-the-go skills that I rely on now. It was not until I came to Philadelphia in 2000 that I tapped into the equivalent of what I experienced in the metal working community in Atlanta with cabinetry and woodworking. I worked with a 2nd Generation Cabinetry Company that had more of a foundation in the traditional furniture and cabinet making techniques. They dealt with a couple of Sawmills and Lumber Suppliers based on the specificity of need, and would often draw on a rich collection of skill sets in woodworkers and metalworkers that they were friends with in the Philadelphia Community. I joined them right as they were moving from the shop they had been in for 15 years to a larger one farther outside of central Philadelphia. They had purchased a building that was built in 1862 to manufacture umbrella and parasol sticks, and process cotton. It has changed hands a few times, with the last tenant before them being Riehl & Son, a Textile Machine Manufacturer.¹

1 Workshop of the World- Philadelphia Web Site.

I had the privilege of being able to help build a shop in its new location. I was able to work with an old Pattern Maker for looms produced for Riehl & Son that Pappajon retained as a worker during the rebuild, which provided stories, context, and a sincere appreciation for the history of the industrial space I was working in. Pappajon Woodworking took up the entire first floor, approximately 10,000 square feet. The second and third became the home of 2 other woodworking shops, and a few artist studios. This was an exciting time. It plugged me back into a deep culture of making that I had rather missed since working as a metal fabricator in Atlanta. I began to be educated about Philadelphia and its past through my experiences with Pappajon Woodworking.

Not long after this I became Shop Supervisor of a College Industrial Design Shop. It was here, again, that I began to become frustrated with the ways and means of discovering the deeper-running resources that might be associated with any one industry or process. It had taken me 10 plus years to acquire the knowledge in Atlanta, and I had just begun that process again in Philadelphia all over again. Granted, I had a huge head start after working with a company such as Pappajon Woodworking.

The internet, by this time, was slowly expanding. Resources such as ThomasNet², a sort of advanced yellow pages for industry specific information, had started to establish an online presence. Their catalog used to come in the form of an encyclopedic size shelf of heavy tomes, each 900+ pages long. This resource is primarily a national database aimed at large industry. It tends to support only those that have a vocabulary or understanding of the terminology related to the trade or profession one Andrew made the prototype from reclaimed pine, and intended to produce more products using the same or FSC certified wood. was in. The information would often lead to non-informative company web pages

2 ThomasNet Web site, <http://www.thomasnet.com/>.

that only gave limited information on services, processes, or materials. These companies were used to dealing with the industry directly through a very specific vocabulary, and were often impatient or ill-equipped to entertain the idea of individually based, low volume, or one-off production. Nonetheless, ThomasNet was and is an amazing resource, and is becoming more accessible and usable since becoming available online. It just requires persistence, patience, and a good amount of time on the phone to take advantage of.

Another great resource is McMaster-Carr³, whose current home page says it all. It is filled of a bunch of images of anything and everything you might need in just about any project in almost any industry. McMaster runs into the similar problem of the user needing to have a tacit understanding of what they are searching for. This seems like something that should be a given when looking for a specific part, material, or tool, but it is not as easy as it seems. I have worked in and around shops for over 18 years now, and I am still running into unfamiliar tools, terms, and parts. To use McMaster's site in any sort of efficient manner, you will have to already have a knowledge base of what you are searching for. Otherwise, you will be looking at a lot of information trying to decipher a language that you might be unsure of. The site also serves as an educational tool, though I prefer to look at the 1000 plus page physical catalog for this. At the beginning of different sections, like Epoxies, they will go into some of the terminology and specifics uses of the product or material to distinguish one type from another, giving material strengths, qualities, weaknesses, etc.

In addition to this, they offer CAD drawings of many of the fasteners and parts that they carry. And perhaps the most useful feature they offer is next day delivery. Yes. You can find something on their site, anything from HDPE plastic to band saw blades, and have it the next day, depending on

3 McMaster-Carr Web site, <http://www.mcmaster.com/>.

your location. This is truly miraculous, but you pay a premium price for the goods you acquire this way. They serve as an incredibly capable middle man, a sort of super-Walmart of goods for anyone involved in making, fixing, building, fabricating, etc..

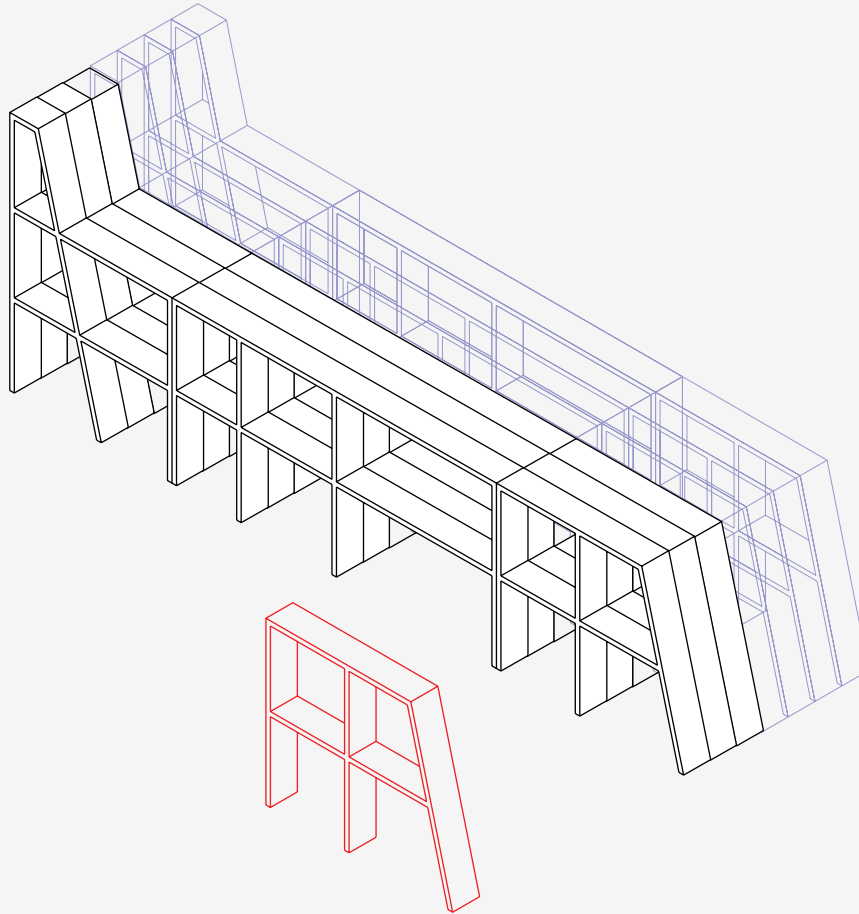
McMaster, and other similar online resources such as MSC⁴, and Grainger⁵ are truly revolutionary tools for those accustomed to using them and that have the experience and vocabulary to navigate through the immense amount of information that one must sift through to get exactly what is needed. For others, there are potential drawbacks with the system: delays as products are tried and returned due to ordering with not enough information, high costs as opposed to ordering from specific re-sellers in area that specialize in the specific products, and a false reliance on a “company store,” which limits growth in understanding of local resources.

These types of resources are the most essential ingredients in working in many making-related projects. They are “the stuff” and “the material” that makes things what they are. What is harder to qualify are the non-material parts of a project, the “know-how”, vendor interactions, workspaces, project management, equipment sourcing, design and planning, etc. All of these relatively simple-seeming ingredients of any project are the most complex parts, often taking up the most time and most often heavily dependent on human work, social interactions, educated decision making, and the need for research and consulting.

A simple way to illustrate the complexity of the making process is to map the possible scenario of production for a TreeBoom product, “3 x 5”. The furniture is made to be reconfigurable. The individual modular units are strapped together using ratchet tie down straps

4 MSC Web site, <http://www1.mscdirect.com/>.

5 Grainger Web Site, <http://www.grainger.com/>.



CAD Drawing of "3 x 5" by Will McHale



Photos of "3 x 5" by Will McHale

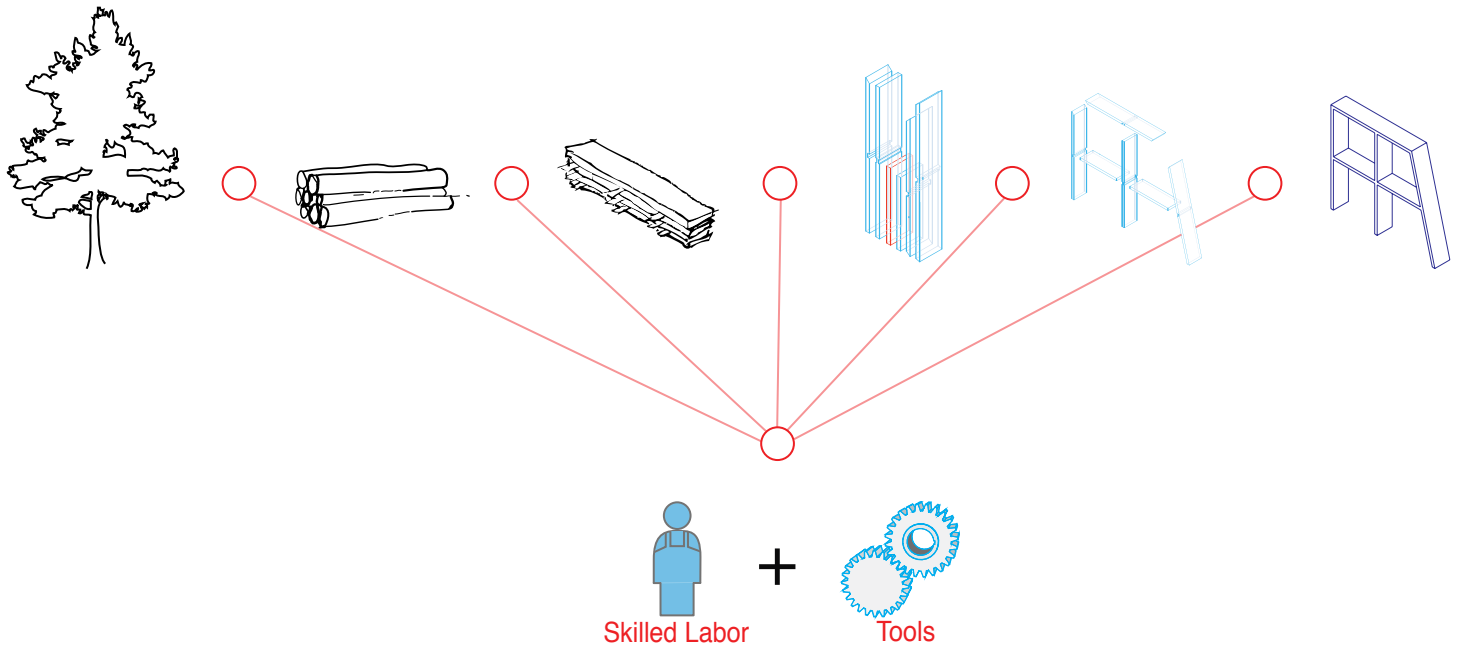


Illustration of Material Stream Process by Will McHale

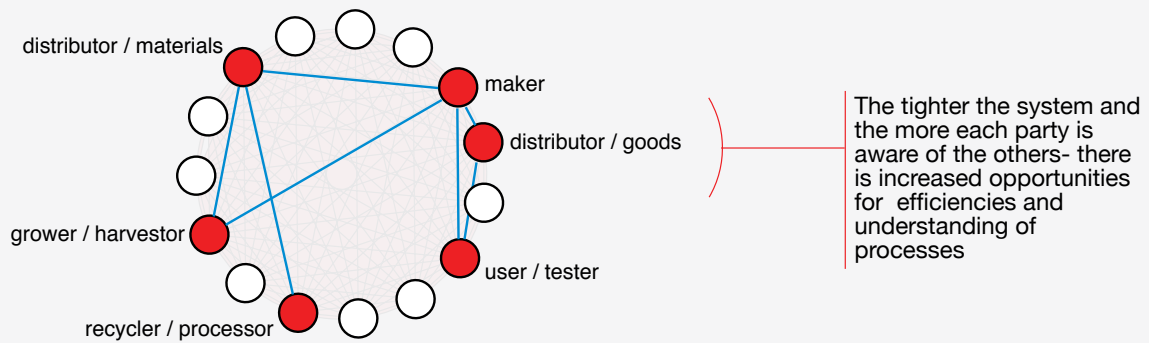


Diagram by Will McHale, based on "Contextual Manufacturing" diagram by Andrew Dahlgren.

How does one source vendors for Reclaimed and FSC Certified Lumber?

ThomasNet, GoogleMaps Search?

There is room for a more specific tool.

How Does one locate a local shop capable of this type of work?

Web search & cold calling, ThomasNet

There is room for a more specific tool.

Could the different parts of the “making of” be done by different people in different locations locally with the idea of specialization and a higher standard for their specific part?

Possibly. A possible intervention / creation of working parts of system.

Assemblers with special tools, milling specialists that concentrate on machine work, and finishers that work in safe conditions with environmentally friendly paints and finishes. There are already existing components like this locally, but the number of sustainably minded vendors are small in number.

Reclaiming Process:



Raw Material



Nail / Metal Extraction



Saws, Planars, Resaws



Kiln



Sorting



Storage



Packaging



Shipping

images from Pineoer Millworks Web site: <http://pioneermillworks.com/get-to-know-us/>

ThomasNet Search for FSC certified Wood:

The search in both Western and Eastern PA yielded a total of two results- Universal Forest Products, and Industrial Hardwood Inc. Neither company mentions anything on their web sites about FSC certified product.

and a Google Maps Search by Zip Code



The search yielded two actual wood suppliers, one mentioning nothing about FSC certification. The other, The Environmental Home Store is a first somewhat successful search. The lumber is already milled for flooring purposes, so one would have to keep searching to find a distributor that carried dimensionally different lumber.

While 3 x 5 as a product seems incredibly simple in nature, as soon as one begins to make decisions based on production- acquiring sustainable material, possibly creating a new material stream locally, potentially sourcing digital CNC technology, etc.- things become complex. The point of this illustration was to highlight these more subtle parts of a project, showing where potential makers might run into decisions and problems that they might not be able to manage alone. Simple reliance on web searches can prove uninformative and actually lead to false information.

A professional woodworker might find some of these decisions or problems easy to navigate until a new technology or process is introduced. An example of this situation happened to a professional bow maker living in New York named Chris Dixon. He wanted to recreate a type of screw on violin bows he repairs that are not made anymore. The newer screws that are used in repairing the 100+ year old bows are brittle and behave differently in the Pernambuco wood that is used for most of the high quality bows. The older screws were formed a different way, using traditional blacksmithing techniques, that resulted in a screw with softer metal. It took Chris over 4 months of active searching to finally find someone capable of helping him with his project. An MIT metallurgist professor named Samuel Allen who also happened to be a blacksmith took on the project with Chris. He analyzed some of the older screws removed from the bows of Chris' clients to determine the type of tooling that the screws were pulled through. Now, with accurate information to work from, and a better understanding through researching the older blacksmithing processes, Chris is in the process of getting the tooling made to recreate the older screw.⁶

Simple Web search techniques or a reliance on a closed peer network would likely prove unfruitful with a project like this. Chris ran into Samuel Allen at a blacksmithing demonstration by accident in Boston while visiting

6 Chris Dixon, personal interview, October 10, 2009

there for a client. He was in the right place at the right time. This illustrates the reliance on social interactions that more complex projects often require. It also illustrates the need for individuals to leave the comfort zone of their own profession to grow their creative potential.

This leads us to an interesting congruous moment of skills, knowledge, and social interaction. Individuals that wish to pursue any activity outside of their immediate skill set are at an advantage at this moment in history. Never before have we had such democratic access to methods and tools that allow for such cross pollination of ideas. This is what is so exciting about the upswell of making, creating, and hacking that is happening. There seems to be an awareness of the social aspect of the creative process, mixed with a revival in heuristic approaches to learning.

Richard Sennett, author of *The Craftsman*, writes about this in an interview by Suzanne Ramljak, of “people doing skilled physical work like weaving, knitting, and sewing...Parts of these economic sectors are coming back to life and they are much more collaborative...one is small scale and face-to-face, and the other is web-based... the web is a fantastic medium for craftsmen. It is a means for mutual support, skill sharing and problem solving. There is something inherently workshop-like that dwells on the web; **it is a great technology for craft.**”⁷

Likewise, in an article reprinted from *O Magazine* in *American Craft*, Meribah Knight talks about sewing through three generations of her family, and the effects of technology on this process. “While I would like to insist that the tactile reigns supreme as I press, stitch, fold, and cut, the Internet does play a supplemental role in my sewing experience. Sites like Etsy and Big Cartel are portals for consumers as well as a venue for crafters. These

7 Richard Sennett, “Richard Sennett on Making,” interview by Suzanne Ramljak, *American Craft*, Oct/ Nov 09

sites allow the makers themselves to sell their wares, creating a cottage industry based on age-old traditions buttressed by the digital age.”⁸

What does this mean? It means we have a chance to proactively reconfigure the way our economy and industry works. We have an unprecedented opportunity to engage again with the physical world around us. We can take the current sensitivities about our environment and our dependence on limited resources, and apply our new patterns of thinking. We have more resources to draw from now, an almost infinite number through the portal of the web. Where these opportunities become even more interesting is when we pair them with social interactions, physical collaborations, and new ways of learning.

.





Okwagon is not a completely original idea. Collecting and aggregating knowledge for the purpose of empowering the everyday person is by no means a new concept. In 1751, the first volume of *Encyclopédie*, or the Dictionary of the Arts and Crafts, was published. Denis Diderot, who inherited the job of completing the text from earlier editors John Mills and Gottfried Sellius, proposed to “change the way people think.”¹ There were 35 volumes, “with 71,818 articles, and 3,129 illustrations...published between 1751 and 1765.”²

Another older example that we are all familiar with is the library. Public Libraries date back to the Roman Empire, where readers could read scrolls that were shelved in rooms on systems of shelves. With the development of such tools as the Dewey Decimal System in 1876, where books could be catalogued hierarchically into categories³, we suddenly gained new ways of searching and accessing books. Who hasn't experienced the synchronistic feeling of happening upon the perfect book while strolling the shelves of a library in search of another. This does not happen by chance. It is the arrangement of the collected material that allows for this.

1 Denis Diderot as quoted in Lynn Hunt, R. Po-chia Hsia, Thomas R. Martin, Barbara H. Rosenwein, and Bonnie G. Smith, *The Making of the West: Peoples and Cultures: A Concise History: Volume II: Since 1340, Second Edition* (Boston: Bedford/St. Martin's, 2007), 611.

2 Wikipedia Web site. <http://en.wikipedia.org/wiki/Encyclopedie>.

3 Wikipedia Web site. http://en.wikipedia.org/wiki/Dewey_Decimal_Classification



frontispiece of Encyclopédie (1772) http://fr.wikipedia.org/wiki/Fichier:Encyclopedie_frontispice_full_473px.jpg

A more immediately useful aggregation of information that was tied to a new technology was the ubiquitous phone book. Even of further use was the Yellow Pages, which were created by one of the pioneer paper making tycoons, Reuban H Donnelley, in 1886.⁴ This suddenly gave citizens the ability to see and connect to ways and means of accomplishing things beyond the traditional process of physical social interaction. For the first time, a person could identify people, businesses, and services as “information” to be accessed

It would be helpful to point out the difference between these two terms for clarity. The internet can be looked at as the infrastructure that the Web exists on. The internet could be looked at as a sort of highway system by which our “goods,” or in the Web’s case, hypertext documents, are exchanged. When one views the Internet from afar one would have trouble distinguishing anything in particular. It isn’t until the “traffic” fills the infrastructure like blood a circulatory system, that we can see the image of the network that the internet allows.

What emerges is something resembling an organic system, very similar to the visual mapping of synapses firing in the human brain. What is important about this is not understanding the structure or the larger circulatory system, but what is passing through it. Tim Berners Lee, when he first proposed hypertext as a means of passing information through the internet, recognized the powerful effect of establishing relationships between data or nodes. By hyperlinking one node of specific data with another node of specific data, something greater is created. In a way a sentence is greater than a word, or a library bigger than a book, relationships and context of simple data can exponentially grow into a system. This becomes much more interesting when you have outside authors (people) using, exchanging, and adding to this system of knowledge.

4 Wikipedia Web page, http://en.wikipedia.org/wiki/Yellow_Pages

Tim saw an opportunity in creating a protocol of exchanging info information through this larger system that exists outside of our organizations and governments. By doing this he was creating a truly democratic exchange of ideas.⁵

It can go beyond the simple exchange of ideas though, as Kevin Kelly, cofounder of Wired Magazine, wrote in *New Rules for the new Economy*, “there is something mysterious that happens when we take large numbers of things that are fairly limited and connect them all together. When we take the dumb chip in each cash register in a store and link them into a swarm, we have something more than dumb. We have real-time buying patterns that can manage inventory.” He goes on to say, “when connected into a swarm, small thoughts become smart.”⁶

Kevin Kelly, one of the more proficient thinkers on the topic of technology, the Net, and its potential discusses the next 5,000 days of the Web in his TED Talk in 2007. He offers some statistics that begin to put a picture together of the Net that is getting to the point of complexity and processing that resembles the human brain. 100 billion “clicks” and 55 million “links” per day approximates the amount of activity in the mind. The number of transistors that make up the net, 1 quintillion, approximates the number of neurons the brain uses.⁷ This net is a large system that in many ways reflects the processes that make the human brain a thinking one. This system is on 24 hours a day, doubling in size every 2 years, and connecting the world’s incredible variety and abundance of information and thinking through one system. This gives us, for the first time, the real capacity to democratize information.

5 TED Talks Web Site, http://www.ted.com/talks/tim_berniers_lee_on_the_next_web.html

6 Kevin Kelly, *New Rules for the New Economy*, <http://www.kk.org/books/>

7 TED Talks Web site, http://www.ted.com/talks/kevin_kelly_on_the_next_5_000_days_of_the_web.html

Kelly goes on to talk about how it is becoming increasingly apparent that we are the web. Our thinking, our communications, and our simple day to day tasks will be more dependant on the Web as we move forward. The idea of being able to tap into this larger collected intelligence, for this being the expected way of thinking and problem solving, is something we need to become comfortable with.

Steven Johnson writes about this paradigm shift in understanding complexity in *Emergence: The connected lives of Ants, Brains, Cities, and Software*. He opens the book with a description of the slime mold, a simple organism with “no centralized brain” and a close relative of the fungi. What is astonishing about the slime mold is its ability to figure out the shortest route through a constructed maze, representing the unexpected ability of simple components building higher level intelligence.⁸ When thought of in a context of what humanity’s intelligence becoming inseparable from the larger “intelligence” of the web, one can immediately have thoughts of SKYNET in Terminator, or The subversive technology gone awry in the Matrix. Steven Johnson talks about this as well, suggesting that though the Web might become smarter, it might not be capable of learning. He equates it to being “smarter in the way an immune system or a city grows smarter, not the way a child does.” So maybe we should relax a little, and learn how to leverage the strengths of this much more inclusive intelligence. Johnson goes on to say, “an adaptive network capable of complex pattern recognition could prove to be one of the most important inventions in all of human history.”⁹ This, along with a smarter collective intelligence might give us the leg up we need when dealing with newer complex problems that are becoming more and more common as humanity grows in scale.

8 Steven Johnson. *Emergence: The connected lives of Ants, Brains, Cities, and Software*. Scibner. NY NY 2008 p. 11-12

9

We are at an interesting point in our global economy. Kelly writes that, “the network economy will unleash opportunities on a scale never seen before on Earth. But the network economy is not utopia. It is a unique phase of economic development much like adolescence—a thrilling, disorienting, and never-to-be repeated time.”¹⁰ Scale is becoming an issue. Despite the promises of the internet, paperless offices, and less physical dependences, we are growing at exponential rates, and actually producing more and becoming more dependant on our quickly declining resources. Kirkpatrick Sale, author of *Human Scale*, writes about our world economy,

“the economy of global reach, of multinational systems and organizations, of interlocking worldwide production, distribution, and consumption...Were it operating efficiently, providing healthy and productive lives for all of the world’s citizens without ecological and social disruption, its fragility and complexity might still be a cause for some concern. Operating as it does, however- as it has for decades and gives every sign of continuing to do- producing chaotic and devastating mixtures of inflation and stagnation, dividing the world into apparently unbridgeable camps of rich and poor, desecrating the resources of the third world to indulge and pollute the rest, in which no nation can be said to be truly prosperous and most exist in abject poverty, its uncontrollable enormity, it’s very non-human scale, becomes a matter for justifiable alarm.”¹¹

Kirkpatrick argues for a realistic alternative, an “economy built closer to the human measure, with institutions designed more for human control... It opposes to the present system of American Industrialism and its oversized units- corporations that can be shown to be too complex for innovation or efficiency... a world of smaller, more manageable , more human enterprises that can provide us with all our needs and most of our wants without

10 Kelly, p 166

11 Kirkpatrick Sale, *Human Scale*. Coward, McCann & Geoghegan, New York 1980 p.295- 296

sacrificing anything substantive in our true material standards.” This concept that he proposes is called a “steady-state economy, one that is not based on growth, but on stability. Such an economy would point towards a workplace democracy, and a world of self-sufficiency, “of cities and communities that are able to achieve steady-state balance and workplace democracy because they function with modest and delimited economies able to combine the best virtues of modern technologies with the truest values of ancient artisanry.”¹²

In *The Second Industrial Divide*, Michael Piore and Charles Sabel argue much the same thing when talking about “flexible specialization” as “seen in the networks of technologically sophisticated, highly flexible manufacturing firms in central and northwestern Italy. Flexible specialization is a strategy of permanent innovation: accommodation to ceaseless change, rather than an effort to control it. This strategy is based on flexible-multi-use- equipment; skilled workers; and the creation, through politics, of an industrial community that restricts the forms of competition to those favoring innovation. For these reasons, the spread of flexible specialization amounts to a revival of craft forms of production...”¹³

Piore and Sabel’s argument is being realized currently not by the West, who have long dictated the global market trends, but by companies in developing countries who “are reinventing systems of production and distribution, and ... are experimenting with entirely new business models. All the elements of modern business, from supply-chain management to recruitment and retention, are being rejigged or reinvented in one emerging market or another.”¹⁴

12 Kirkpatrick, *Human Scale*, p.90

13 Michael Piore and Charles Sabel, *The second Industrial Divide: Possibilities for Prosperity*, (Basic Books): p.17

14 Adrian Woolridge, “The world turned upside down,” *The Economist*, Apr 15th 2010, http://www.economist.com/specialreports/displaystory.cfm?story_id=15879369

These emerging economies are not all necessarily developing in ways that Sale, or Piore and Sabel would recommend. Many of them seem to be repeating some of the same mistakes that were made in the past based on “a mixture of ambition and fear—ambition to bestride the world stage and fear of even cheaper competitors.”¹⁵ This conflicts with Piore and Sabel’s observations of a crisis that is “easily visible” in which, “existing institutions no longer secure a workable match between the production and the consumption of goods.”¹⁶

What is certain, regardless of whether these newer emerging markets take advantage of and maintain newer more sustainable ways of doing business, is that business as we know it in the West will be forever changed. “The number of companies from Brazil, India, China or Russia on the Financial Times 500 list more than quadrupled in 2006-08.”¹⁷ One thing we can do is take advantage of these newer realizations and the shifting market to rebuild our current systems according to new understandings and behaviors that are being modeled as we speak.

In *Wikinomics*, Don Tapscott and Daniel Williams explore some of these powerful new economic models “of production based on community, collaboration, and self-organization rather than on hierarchy and control.”¹⁸ In one example the authors show how a company steeped in traditional techniques and procedures opened its doors and allowed much of its proprietary information to be let loose on the Web.

15 Adrian Woolridge, “The world turned upside down”

16 Michael Piore and Charles Sabel, *The second Industrial Divide*, p.4

17 Adrian Woolridge, “The world turned upside down”

18 Don Tapscott and Daniel Williams, *Wikipedia: How Mass Collaboration Changes Everything*, (April 17, 2008) p.2

Rob McEwen had attended a conference at MIT in which Linus Torvalds gave a talk on his popular open source operating system and how it came about through brazenly sharing the source code to other developers on the internet in an attempt to move through the problems collectively. McEwen took this model and applied it to Goldcorp, a very traditional mining company, of which he was the newly appointed CEO. His geologists had exhausted the possibilities of new sites to mine on their 55,000 acre property. He decided to create a competition. He released some 400 MB worth of proprietary information on the web, offering “\$575,000 in prize money available to participants with the best methods and estimates” of locating new sites to mine.

“What happened caught everyone at Goldcorp off guard: ‘We had applied math, advanced physics, intelligent systems, computer graphics and organic solutions to inorganic problems. There were capabilities I had never seen before in the industry,’ says McEwan.’When I saw the computer graphics I almost fell out of my chair.’ The contestants had identified 110 targets on the Red Lake property, 50 percent of which had not been previously identified by the company. Over 80 percent of the new targets yielded substantial quantities of gold. In fact, since the challenge was initiated an astounding eight million ounces of gold have been found. McEwen estimates the collaborative process shaved two to three years off their exploration time.”¹⁹

The business ramifications of potential collaborative efforts based on shared information is becoming an accepted reality. Other companies that were more traditionally based in the past are experimenting and showing signs of success with these new models of thinking. “Companies such as Boeing, BMW, and Procter& Gamble have been around for the better part

of a century. And yet these organization and their leaders have seized on collaboration and self organization as powerful new levers to cut costs, innovate faster, co-create with customers and partners, and generally do whatever it takes to usher their organizations into the twenty-first century business environment.”²⁰

If we take the overwhelming influence of such tools as Facebook, Twitter, and LinkedIn and apply some of the tools of their success to the model of working we are promoting in this Thesis, we could potentially have exciting new ways to see, evaluate, and work in our local communities.

“LinkedIn, for example, is developing a service that aggregates data it holds to show career paths for certain professions. So someone who wants to become, say, head of software engineering at a large company in ten years’ time can see what sort of jobs have led on to such roles for others.”²¹ Taking this and extrapolating the idea, we can apply it to active local “projects” instead of “professions” , and maybe conclude that we could possibly create a tool to “map” local producing paths. We could see, for example, how an individual might have assembled and sold a locally made midi device (ex. Monome). A visible orientation of materials, vendors, makers, etc. would begin to become visible- showing potential areas of overlap where new collaborations or sharing might be formed. Locating these systems on a map for other like minded individuals would be a very powerful tool to spur local economy. These visual guide posts, or ways of connecting between the dots might also show where there are new opportunities.

We are at the very beginning of a new era, where we can make some critical decisions on how we lay down the foundation on which we will

20 Don Tapscott and Daniel Williams, *Wikipedia: p.2*

21 “The World of Connections,” *The Economist*. Jan.28 2010

later build. We have some critical decisions to make about how we adapt to the technology that is becoming inseparable to the way we exist in our environment. The choices involve paying close attention to scale, relationships, community, and our limited resources- in the context of open information structures and abilities. If we are able to navigate these new larger momentums and take advantage of the positive components while mitigating some of the negative side effects, we might actually have a real opportunity to recreate our environment in a way in which more people can achieve a better quality of life.

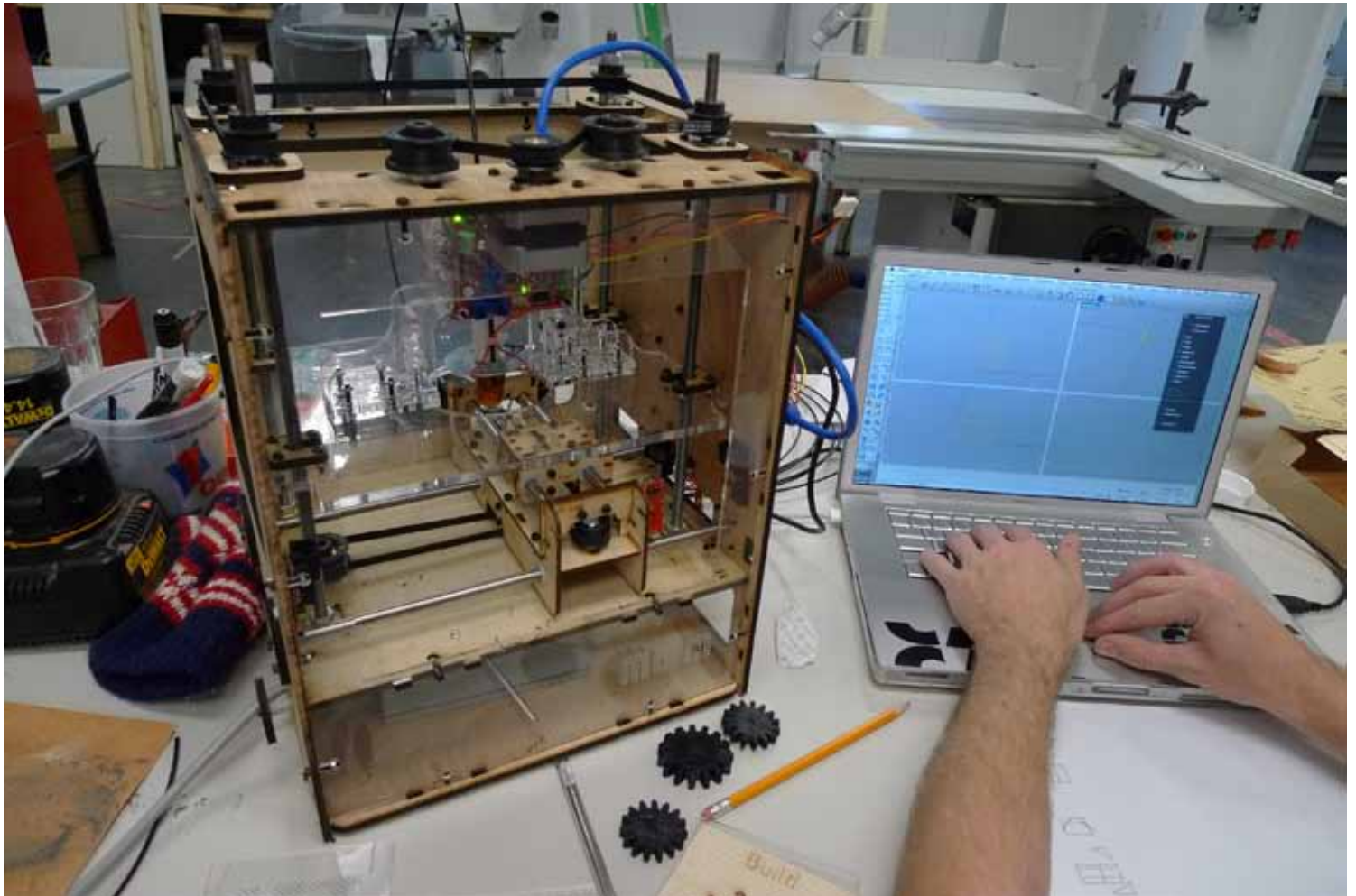






























4

The exciting part of all of this is that there are already people out there doing these types of activities, existing in smaller, more agile ways. They use newer technologies as well as the old traditional ones. They are developing work flows specific to their needs, keeping low overheads, and giving business to other similarly modeled groups- or even giving the impetus for older traditional manufacturers to shift in the way they do business.

One model of this is Mio Culture. They are a design firm in Philadelphia started by Jaime and Issac Salm. The philosophy of the company is based on combining “business rigor with environmentally and socially progressive design.”. Their approach “has resulted in the integration of existing technologies and industries into a profitable value-added system that is both socially and environmentally responsible.”¹ Though they produce products in high numbers, they do so in ways that are more tied to immediate demand. Their business model explores the idea of readapting older existing manufacturing processes to produce products that are sustainable in nature. An example of this is their Wobowl Softbowl.² They approached a manufacturer that worked with traditional millinery techniques, who had based most of their business on producing felt hats, and proposed to them the idea of trying their traditional techniques on new concepts and designs.

1 MioCulture Web Site, <http://www.mioculture.com/about.asp>

2 MioCulture Web site, <http://www.mioculture.com/store/pc/viewPrd.asp?idcategory=7&idproduct=19>

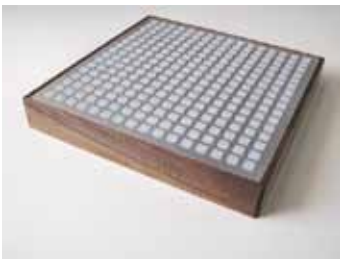


Brian Kelly and Jackie Starker: designers for MioCulture

The match worked well, as the business was suffering from a declining interest in the older product that had defined their business before. Jaime and Issac spent time with the company initially before they proposed any design. They wanted to understand the way that they worked so that they could see where their might be opportunity.

When a design was finally proposed, there was room for conversation, as the company worked with the “design” and the designer to figure out a way to make it best. Since the initial design, the company continues to work with MioCulture, often prototyping and helping with concept development for next to nothing in exchange for the new types of markets they have access to through MioCultures’ innovative approach.

Another company that has an exciting model of operation is Monome. Brian Crabtree and Kelli Cain, who began Monome, have many overlapping interests. Two of these, art and music, came together when they had worked together on a couple of installations that involved programmable electronic music in San Francisco. They followed their initial interest with a brave new idea for a MIDI device, a programmable piece of hardware that musicians can use to sample, arrange, and produce sound and compositions. Their version is based on their open-source commitments and their belief in an adaptable, minimalist interface. They created a device using mostly local makers and fabricators that is exceptional in quality. Because of this, their followers have grown to include a global market.



Monome

monome is brian crabtree and kelli cain.

we aim to refine the way people consider interface.

we seek less complex, more versatile tools: accessible, yet fundamentally adaptable. we believe these parameters are most directly achieved through minimalistic design, enabling users to more quickly discover new ways to work, play, and connect. we see flexibility not as a feature, but as a foundation.

we strive for economic and ecological sustainability. careful design practice allows us to contribute to culture and preserve the environment by choosing domestic, high-quality, and responsible providers and production facilities. we acknowledge that our future will depend on our ability to support and maintain a local, regenerative economy.

we choose not to outsource production in cases where it supports controversial governments, exploits workers, and leads to destructive environmental practices. by working with small, local companies we hope to foster long-term relationships, gain more insight and control over production, and actually witness our products' progression. as a result we engage in continuous and responsive design. we choose to support companies who share our values; companies who provide living wages, clean and safe working environments, and high quality goods.

careful, minimalist design and durable materials ensure our objects will survive throughout their creative potential. packaging is kept to a minimum and is recyclable.

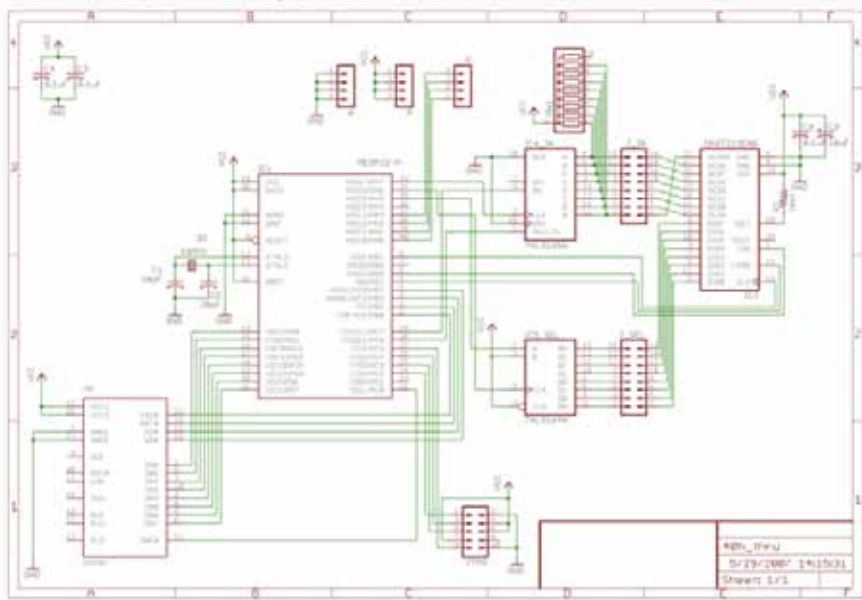
we seek to actively facilitate community participation and encourage sharing.

we are always learning.¹

1 Monome Web site, <http://monome.org/about>

Trace: / world / docs / grid_layout / tech / 40h / thrulogic_schem
here: tech:source_files:40h:thrulogic_schem

Search



tech/source_files/40h/thrulogic_schem.txt • Last modified: 2008/02/23 19:39 by matthew

Show pagesource

Old revisions

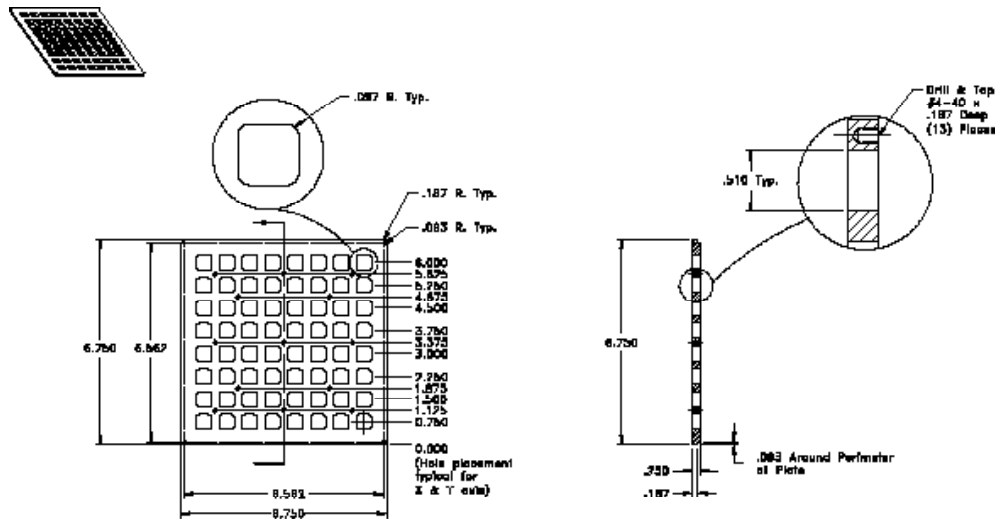
Login

Recent changes

Index

Back to top

we believe that open source is commercially viable and mutually beneficial for our collective and the consumer. in opening our software we eliminate wasteful, redundant coding for ourselves by incorporating proven libraries and frameworks. we in turn provide these same benefits to others who wish to incorporate our development efforts into their projects. we believe distributed development leads to more stable software and more creative application design. we believe open applications provide more flexibility for users to adapt tools to their specific needs, encourage creative use of software and hardware, and produce a greater diversity output from users.¹



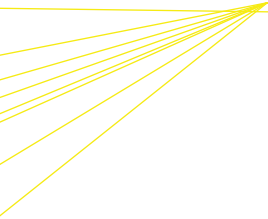
8 x 8 Button Plate
6061 Aluminum

1 Monome Web site

40h

Serials 0-400

Serial	Owner	Country	Note
4	lobobelga	BXL, Belgium	bought from Alien9 in Italy
16	makingthenoise	Cambridge, MA, USA	
24	scarab		
45	miaouxmiaoux		
57	aardvark	Boston, MA	
59	zero		
82	enjoy	Melbourne, AUS	added accelerometer
89	t1mp		bought from momo_the_monster
93	soundcyst	Bay/LA, CA, USA	added accelerometer
115	stephen	Exeter, UK	added accelerometer
150	gchang		
161	naven	Liège, Belgium	bought from oramas
200	bean	USA, NYC	
203	olivier lasso	Paris, France	
215	dbj	Västerås, Sweden	
221	bean	USA, NYC	
242	kafi-d	CH,St. gallen	
251	mrlee		
256	calm	Scotland	
262	stigi	Germany,Dresden	bought from arp1618; with accelerometer
298	linusislost	San Francisco, Istanbul	
311	wingo	Los Angeles, CA	original owner
312	oldanalogger	Worcs, UK	Bought from EBay - vexpensive..!
325	corporation	USA	
336	nickshelestak		
374	rcutz	rio, brazil	
379	restlessboy	Cardiff, UK	used to own 256-071 but part-exed for this little fella



Though Monome is Philadelphia based and concerned with local production, they have a much wider user group. This brings up the idea of

Inter-Local:

The concept of community existing on a global scale- like minded initiatives connecting with one another. This can trump the demands of existing in an isolated local manner, by offering greater context and understanding.

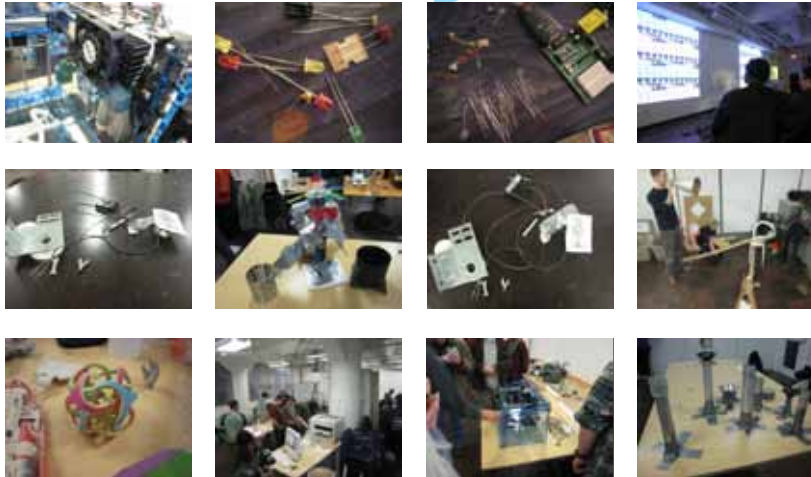
Monome is a modern example of Piore and Sabel's Flexible Specialization.

In reference to the Lyonesse Textile industry of the early nineteenth century: "they.. constantly altered the goods, partly in response to changing tastes, partly to change tastes, in order to open new markets... their flexible use of increasingly productive, widely applicable technology and their creation of regional institutions that balanced cooperation and competition among firms, so as to encourage permanent innovation.

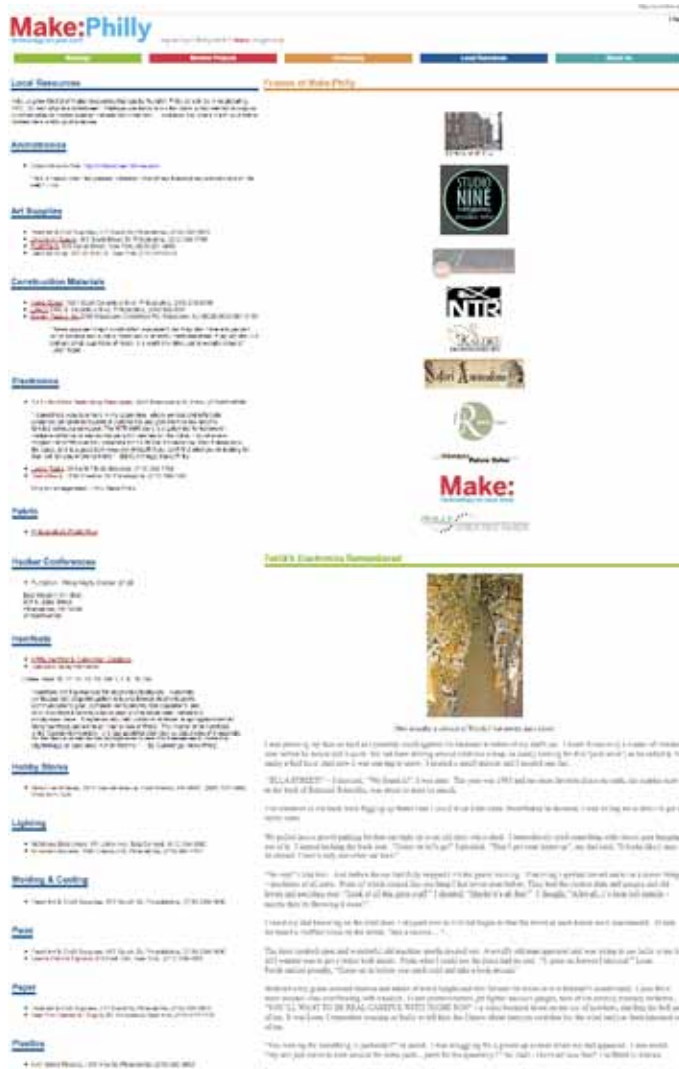
Monome's open source commitment is a more advanced modern equivalent of this stance.¹

1

MAKEPhilly:



above photographs of MAKE Meeting by Will McHale below and next page: screenshot of Make:Philly Website



MAKEPhilly is based on the idea of a network. It sets up monthly meetings that feature a guest speaker, arrange for a “Maker Challenge,” and give the community in Philadelphia time to share skills and techniques that are relevant to the day..

This list of resources on the MAKEPhilly web site is as a complete list as I have come across concerning local accessible resources. It is only accessible through there web site though. It is obvious that the maker community is aware of the power of knowing your network.

Dana Schloss, co-chair of MAKEPhilly was willing to join my research committee. She is an Exhibit Designer in Baltimore who still comes to Philadelphia to participate in the MAKE activities..

She currently teaches at UArts in the Exhibit Design Program.



Make Magazine & Cract Magazine



Popular Science cover, April 1930

The two magazine titles on the left page are current popular examples of the “maker” and “crafter” culture that is having a revival of sorts. The Magazine to the left is a *Popular Science* from 1930. I have a collection of these older titles salvaged from garage sales. They are remarkably similar to the current magazines *Make* and *Craft*. Recently, with the growing demand of such titles, Popular Science decided to put all of its older issues online through Google Books!¹

1

<http://www.popsci.com/archives>

The Hactory:

The Hacktory promotes the use of technology in the arts through:

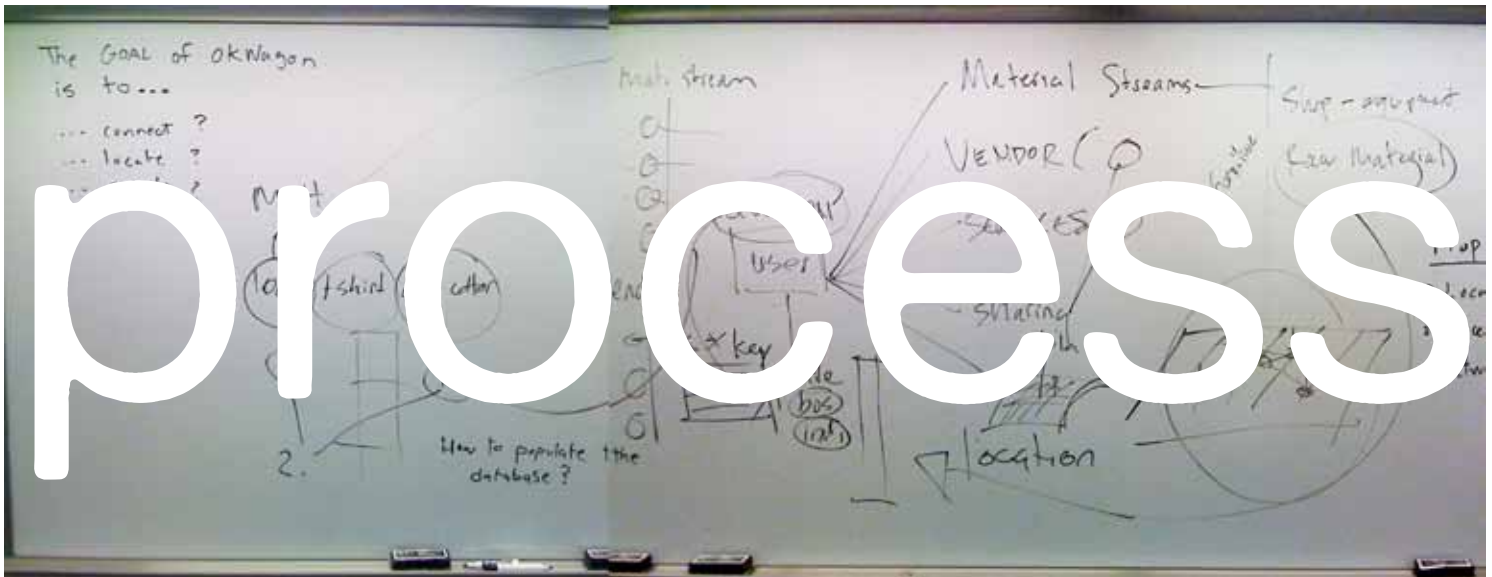
- * Classes
- * Community Events
- * Shared Facilities and Equipment
- * Artist in residence program
- * Art and Technology promotion
- * Materials Exchange

Harris Romanoff, one of the founders of the workspace as well as the monthly social group it extended from, Make Philly (makephilly.com), likens hacking to recycling. “It’s very much about taking something that someone else has discarded, something that they view as a piece of junk, and saying, ‘You know what? There’s good parts in there. There’s motors, there’s circuit boards, there’s plastics. There’s metals that I can hack out, save, salvage and use in a new way to create something that I’d like to build.’” Clarifying, he says hacking is about “taking that which has already been made and repurposing it.”¹

The idea to gather such like-minded people together first occurred to Romanoff a couple of years ago, after reading the debut of the do-it-yourselfer quarterly Make magazine. He says he and a friend were kicking back over beers, daydreaming of how great it would be to find others who were into the magazine and into building things.

It’s serving as a forum for people to connect, to discover that maybe they could team up with this person on a creative project, that, oh, that person knows something that they’ve been looking to learn more about,” Romanoff says. “Really, at the end of it all, **Make Philly is about connecting folks who are looking to do creative things, things with their hands, things with their minds, and just come together, and have a common place to do that.**”

1 Harris Romanoff, interviewed by ““



photograph of white board ideation from MMDI 202 Spring 09

5

After working through the concept of a database with Andrew Dahlgren and refining some of what the design criteria might be, it was decided that it might make sense to model a scenario that we might envision the database tool allowing for with the design process of the actual project. In this way we might actually learn things along the way by impersonating some of the behavior that could be expected. I admitted that I did not have all of the skill sets needed to successfully resolve all of the design criteria. This was a first step, acknowledging that it would be good to bring in partners on the project that could help me navigate some of the areas I was not as skilled in. So let's imagine in this scenario being able to type in a search, like in the popular google search engine, of words like, "design, CMS, database, and web site."

I would imagine individuals and places showing up, as well as some services or vendors. Amongst these names and places would also be educational resources in Philadelphia such as UArts, Temple, UPenn, Art Institute, etc. More specifically the multimedia departments in the Universities listed. Location and Interest based filtering would potentially pull up specific studios, commented on by students and instructors with possibly even links to work done. The importance of the results would be a cross- platform accumulation of resources, meaning more than just typical business listings. I, after all, am interested in collaborating, not hiring a service bureau to take care of this for me. I would be interested in the organizations, the people, and perhaps the spaces or areas that this community might operate in. It would not hurt, of course, to gain an understanding of the professional services too, to understand what was

CALENDAR (all dates and assignments subject to change)

Wk	Date	Description (with readings, assignments due)
01	01/20/09	Course Introduction / OKWagon Project Introduction
	01/22/09	RSMP Fundamentals <i>Readings:</i> • “Design Research and Brainstorming” • “Embracing Iterative Design” • “A Design Method”
02	01/27/09	Design Research
	01/29/09	
03	02/03/09	Conceptual Design
	02/05/09	
04	02/10/09	User Experience
	02/12/09	
05	02/17/09	Prototyping / Information Architecture
	02/19/09	
06	02/24/09	Prototyping / Interface Design
	02/26/09	
07	03/03/09	Prototyping / Interface Design
	03/05/09	
08	03/10/09	SPRING BREAK: NO CLASS
	03/12/09	
09	03/17/09	Production
	03/19/09	
10	03/24/09	OKWagon Project Due / Final Crit
	03/26/09	Project 2 Introduction
11	03/31/09	
	04/02/09	
12	04/07/09	

out there offering such services might help us down the line. In short, what would be good would be to get as much information about the topic as I can possibly get.

This process that I am modeling was abbreviated due to time constraints and the privilege I had of working in one of the larger resources that would potentially pop up on such a search. In essence, I chose to pre-apply filters to the search, limiting the potential searches to the convenience of location. The closer the better in this case. Since I work at The University of the Arts, and have met many faculty and know a good bit about the different departments, I knew where and who to speak with. I took the opportunity to approach Jeremy Beaudry, a Professor in the Multimedia Department at the University of the Arts, with the idea of using my thesis topic as a subject for his Junior Studio. I sent Jeremy a proposal in the later part of Fall Semester. He responded positively. After corresponding several times about how best to structure the studio, we agreed that it would be possible in the Spring of 2009. A collaboration had begun.

My first goal (after discussions with Jeremy) was to make clear a vision, and the needs and goals for the work in class - I needed to answer the what, why, how, etc. of the project. I also needed to provide the group a summary of the work I had already done on the project. From this, the students and I would proceed to develop the specifics of the problem to be solved. Once a week I would join the class, which met twice each week during the semester. I would act as a client of sorts, though it was decided that I would also go through the same exercises and readings as the students. This was critical, as I needed a base knowledge from which to build a communication with those that were going to help me model initial ideas.

The first day of class, I gave the presentation that I had given the semester before to my Industrial Design cohorts that proposed the idea of Okwagon



Jeremy Beaudry's Junior Studio: from left to right, John, Jeremy Beaudry, Matt Trigaux, Benn Jewitt, Kyle Mirro, Spencer Hargiss

with supporting research and documentation. Jeremy, by this time, had provided a project management space to run the studio, in which we could upload files, aggregate emails, and share ideas. (again- something significant in the model of collaboration) It would be a “whiteboard” of sorts, **a way to keep everything in one area**. I uploaded the presentation to Basecamp, the Web based software Jeremy chose to accomplish this, so that the class could continue to refer to the prior research, work , and visual documentation I had already done. We were attempting to make the process transparent and “open source” in nature, though it doesn’t fully qualify as such due to the limited participation.

Jeremy used a text from 37 signals, the authors of Basecamp software, for one of the first readings. They published a text available to order on line called “Getting Real.”¹ In it they discuss the process they have used to produce 4 very popular Web based programs, an alternative to the top heavy production methods of companies that are predominant in the market, a way to work quicker and lighter. It was also, like many such ventures that come from such progressive companies, offered “free” online in the form of a PDF. This makes sense. Aside from being a free resource, they are receiving free marketing, and educating the public as to how they work and why this is a good thing. (Kevin Kelly has done the same thing with his books *The New Economy*, and *Out of Control*)

In the opening of the book they explain their intent:

“Getting Real is about skipping all the stuff that represents real (charts, graphs, boxes, arrows, schematics, wireframes, etc.) and actually building the real thing.
Getting real is less. Less mass, less software, less features, less paperwork,

1 Getting Real Web site, <http://gettingreal.37signals.com/toc.php>

less of everything that's not essential (and most of what you think is essential actually isn't).

Getting Real is staying small and being agile.

Getting Real starts with the interface, the real screens that people are going to use. It begins with what the customer actually experiences and builds backwards from there. This lets you get the interface right before you get the software wrong.

Getting Real is about iterations and lowering the cost of change. Getting Real is all about launching, tweaking, and constantly improving which makes it a perfect approach for web-based software.

Getting Real delivers just what customers need and eliminates anything they don't."²

I discussed with my Thesis Advisor and Jeremy, who was also on my committee, the possibilities of a deliverable I could get feedback from. The possibilities were to either make a mock-up site based on the process in Jeremy's studio, or to build a working database that I could run real demonstrations with. It was decided to go with the actual working prototype. If we could deliver this, it would go farther in vetting the concept with users. So it was decided that I needed to have a working model from which to get feedback from by mid-semester, a few weeks before the rest of the class would be expected to have prototypes ready. This was ok, and could be looked at as an advantage of sorts. I could take the advice of 37 Signals- could get something up, functioning, that could give us the ability to look at things in real time. We could play with features, attributes, and abilities along side of the slightly slower and more thorough process the class was going through. They could, essentially, be learning from some of my mistakes and mishaps, and we could reiterate together.

To accomplish the quicker pace, I would need an additional partner to help

2 37 Signals Web site, http://gettingreal.37signals.com/ch01_What_is_Getting_Real.php

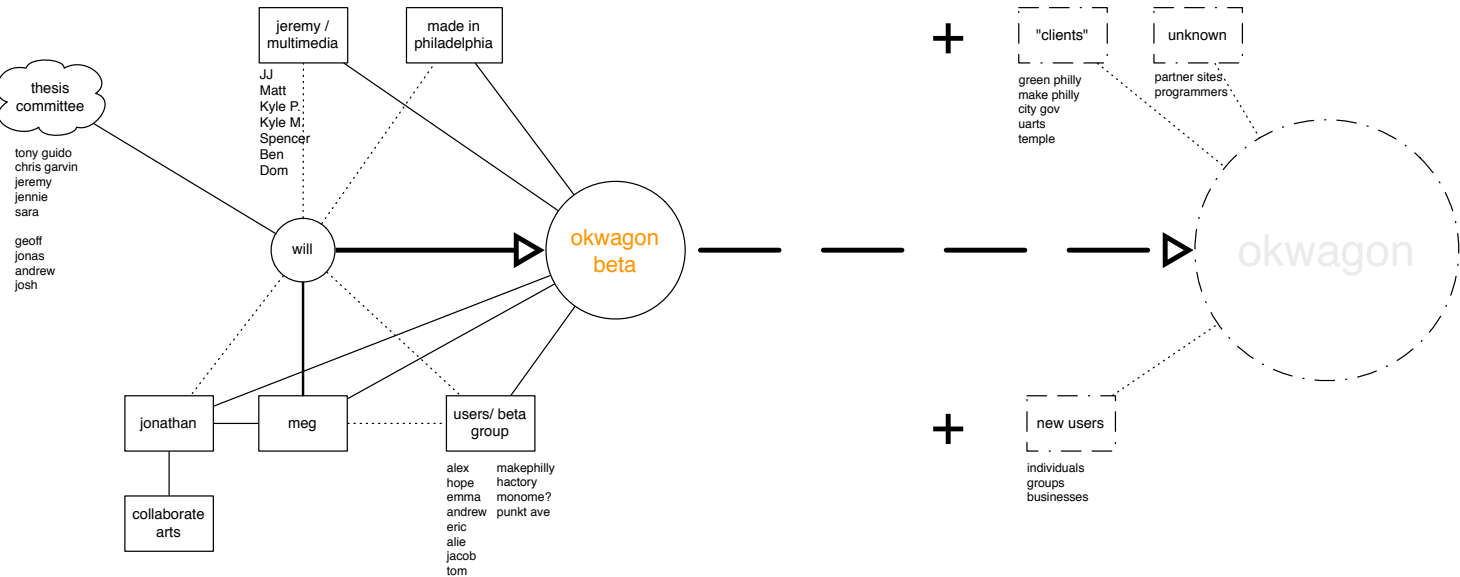
me. One of the people suggested by Jeremy was a recent Multimedia grad who had worked on a similar database driven project named Jonathan Davis. The other was Meg Frisch, a recent Crafts/ Fibers graduate of UArts who worked at a web design firm that focused on developing database driven sites. Both of these people had the additional advantage of knowing the software that it was decided we would most likely be using- Drupal.

In my earlier discussions with Jeremy, before the class even began, we had resolved to simplify the design of the class by committing to one of the primary tools that was to be used ahead of time, instead of allowing too much time and attention to be taken up by running the class through this part of the design process.

Drupal is an open-source content management system (CMS) that is provided free online under and licensed under the GPL.³ It had the additional advantage of being incredibly well supported by a devoted community of programmers and developers. It falls, in so many ways, into the way I imagine a community forming around the local making database we were working on. A CMS is the type software or programming that allows for such Web based systems as Social Networks. It is not the static page set-up of the traditional web sites that are dependant on the “linking” of one web page to another. It is more dynamic, allowing information itself to be linked and aggregated. The simple move of separating information from the presentation of the page that we are familiar with is a powerful step, one that was mentioned earlier when discussing Tim Berners Lee, and his plea to open the Web further.

3 Drupal Web site, <http://www.drupal.com>

okwagon constituents



illus. by Will McHale

Drupal states their mission on their web site:

“To develop a leading edge open-source content management system that implements the latest thinking and best practices in community publishing, knowledge management, and software design.

We value:

Flexibility, simplicity, and utility in our product;

Teamwork, innovation, and openness in our community;

Modularity, extensibility and maintainability in our code.”⁴

There were other alternatives. We could have attempted to have specific code written for the site to allow for the various functions that we designed for in one of the various programming languages: Java, Perl, PHP, Ruby on Rails, etc. This would have been too large of a project for the point where we were at- attempting to prototype and get feedback in a very brief period. There are other pre-packaged “programmed” systems out there similar to Drupal. Another one we looked at was Joomla, which is also open-source, and has the same community based support. We chose Drupal over other options based on the depth and breadth of the program and its support, and most importantly, its ability to scale with growth.

One of the drawbacks with an adopted pre-programmed system like Drupal is the nature of working within another system. The very things that allow for quick development and deployment with a great deal of functionality, can also limit design and specificity. The more one pushes against working within Drupal’s prescribed workflow and structure, the more one runs into headaches and non functionality.

4 Drupal Web site, <http://drupal.org/mission>

The pro's, however, are far more in this situation. One of the fundamental principles of Drupal is to “provide a slim, powerful core that can be readily extended through custom modules.”⁵ By doing this, Drupal gives the ability to pick and choose basic functions of the site you wish to develop. This allows for a great deal of flexibility for users. Further, it allows sub-community groups to form around specific topics and functionality. This furthers the ability of open-source feedback and programming to solve issues and move actual functionality forward.

Drupal is released in versions with the newest one generally existing as a beta version until feedback loops allow for bugs and issues to be worked out. The modules written for the Drupal “core” usually follow the new versions of Drupal with updates of their own. The intensity of community activity and support that allows for this to be a possibility is amazing if one is unfamiliar with the open-source software community.

While Jeremy had the rest of the class and myself on a rather linear development of their web based design skills, I began work with Meg Frisch on an accelerated, and somewhat chaotic crash course in Drupal development. This was done in hopes of overlapping with the rest of the class once they had arrived at the point of taking their ideas to the next level of implementing them in Drupal.

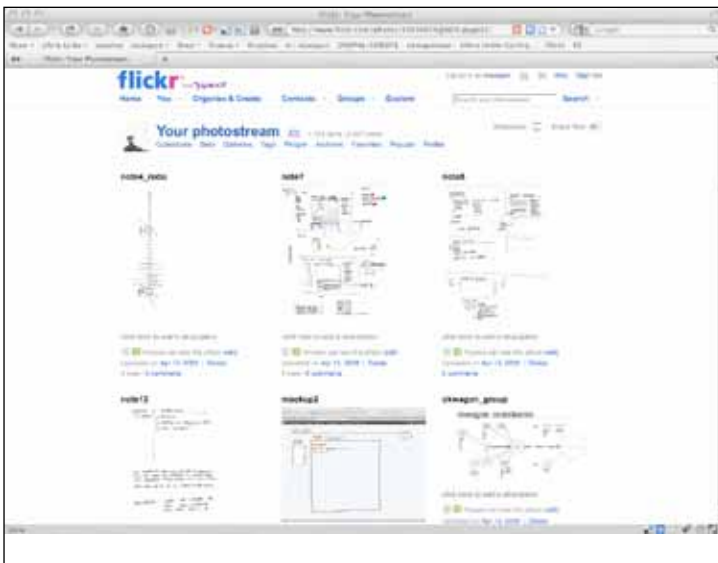
Meg's experience with drupal was limited mostly to the front-end and the design of the interface. She was, however, plugged into the local community in ways that Jeremy and the class were not. We had the advantage of having some of Meg's regular collaborators being interested in the project. These included coders and developers who had skills that Meg and I did not. This brings us to the point of discussing the way we structured our particular process and work flow, in ways that would

5 Drupal Web site

allow for such collaboration from opportune moments that might arise. It is important, again, because it was modeling many of the ways and methods by which I imagined Okwagon might allow its users to work-by more immediate access to useful peer based information. Due to our both having full time jobs and often working in different locations, we quickly established a need to have some project management like Jeremy had established with Basecamp, ways and means of collecting and communicating our process when we were not together. We used Basecamp some, but mainly to refer to the classes process. We mostly relied on more organic structuring and recording. One of the primary concerns was documenting the process of designing and developing the Okwagon site. I had already been using Flickr, a web based photography database and social network, for some other projects. We created a Flickr⁶ account specifically for Okwagon so that we could capture any process related images in one area that would be readily available to both of us when working. This allowed the class to view where we were at as well. We could open flickr in class and display current “screen grabs” of the site with incredible ease. (page 69)

Another tool we used, and which Meg was already using extensively for her design work was Instant Messaging (IM). We used this beyond the more immediate social functionality. We used it to have real time, in depth conversations, in which we could send links, images, and ideas back and forth while we were both in different locations. This allowed for us to work on different tasks simultaneously, creating very quick work-feedback cycles that allowed for an extremely accelerated work pace. This had the added advantage of helping us archive our conversation and discussion, which proved very useful when we needed to refer to an old link or initial idea. Below is an example of such a conversation (one of many) between Meg and her developer friend Michael that happened while I was sitting next

6 Flickr Web site, <http://www.flickr.com>



illus. okwagon flickr site: <http://www.flickr.com/photos/35036626@N03/page52/>



illus. okboom blog: <http://www.okboom.com>

to her working on another part of the site. This impromptu conversation helped us a great deal: (Meg is the “me” in this conversation)

“me: hey do you have a minute

Michael: 30 sec

whats up?

me: ah

so locations in drupal... when you view the node the coords come up and a link to a map (external)... how do we embed the map in the node itself?

Michael: theme the node

so you would copy node.tpl.php

call it node-yournodename.tpl.php

me: ohh thats what that is

Michael: yehp

me: and then?

Michael: but you HAVE to have a node.tpl.php in there too toherwise it will ignore custom node themes

then you'll have access to all the node variables

you can throw a print_r(\$node) to look at them all

me: that goes in the content or?

Michael: 2 of the fields will be the coordinates

yeah, anywhere in node-whatever.tpl.php

me: ok

Michael: then for coord A and B, you'll just put the google maps code in

me: the macro, or the js?

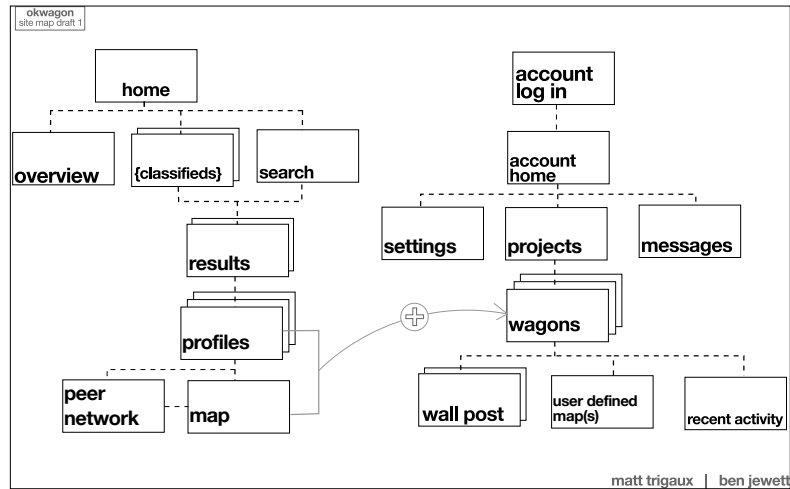
Michael: however the javascript works

me: ok

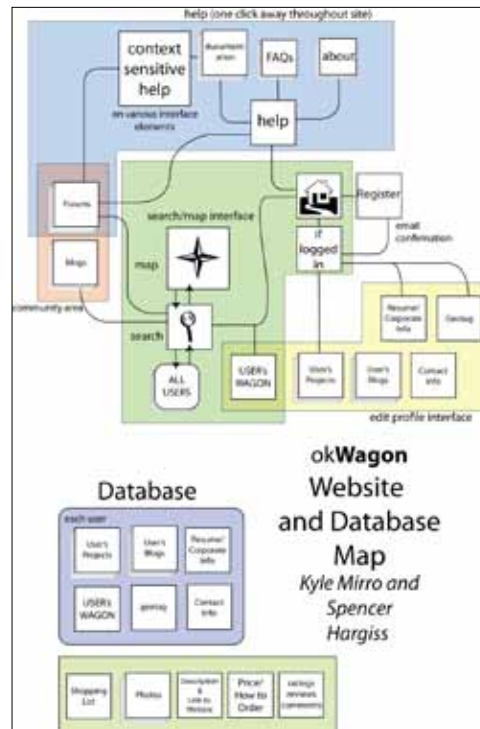
Michael: thats how i would go about doing it

me: thanks

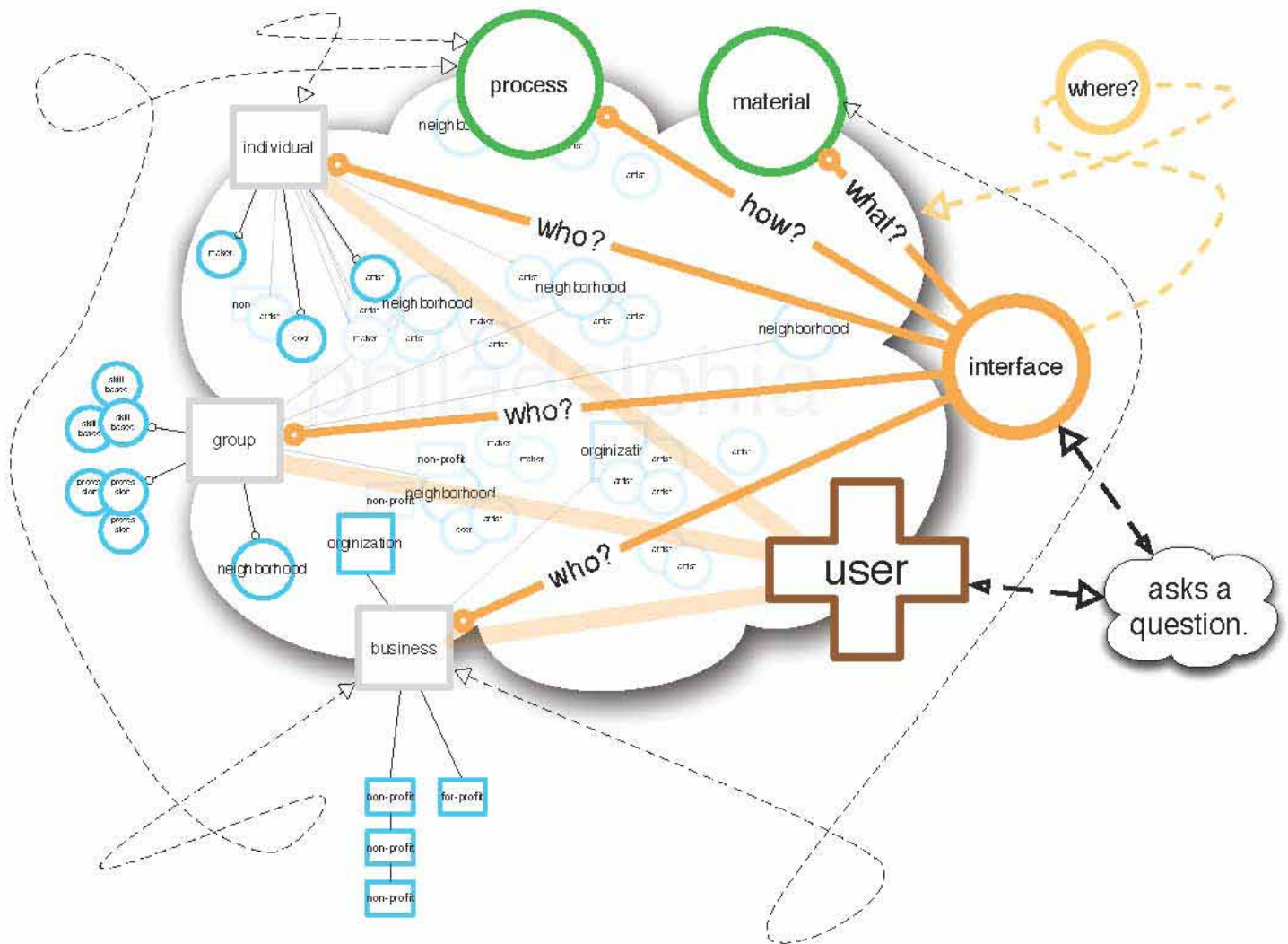
Michael: there are about 10 other ways that i can think of, but i think this is the most appropriate drupal wway7



illus. from MMDI 202 Spring 09 by Ben Jewett & Matt Trigaux



illus. from MMDI 202 Spring 09 by Kyle Mirro & Spencer Hargiss



illus. from MMDI 202 Spring 09 by Will McHale

The other tool I used was the common blog platform. I was using a Wordpress site to both track my overall thesis development, writing, and bibliography. (page) We also set up a second site that Meg and I used to manage specific Drupal issues. Normally it might not be important to discuss the tools and work flow used in such detail, but in this scenario, we were actually learning from the process we were going through. These were all on-line tools that created different ways of behaving and working that were important to understand if one was to honestly approach creating a web-based interface that aimed to “enhance” the process of making. We had become our own test subjects by acknowledging what was working and what wasn’t in our own efforts of “making.”

One of the earlier in class exercises that Jeremy lead in my absence was a reframing of the okwagon site goals based on the students own research and understandings. He asked each of the students to write a statement the week before. Then, during class, they read aloud their statements. After this, as a class, they pulled together the common themes and created a new site goal:

Okwagon Site Goals:
(as evolved in Jeremy’s class)

The goal of Okwagon is to connect local craftspeople, manufacturers, artists, and designers by visualizing existing resource networks, production processes, and locations. Okwagon is a tool for communication that streamlines collaboration within the local community in order to strengthen Philadelphia’s creative industries.⁸

With the new site goal written and everyone settling onto the same page, we began to work through possibilities of the site architecture (page). I was simultaneously installing a first Drupal install with Meg. At first sight it is somewhat painful to look at. Luckily Drupal, like the more common blog software Wordpress, has open source themes to choose from. A theme is simply a skin that other parties have provided through coding in CSS, HTML, and PHP that is the primary look and feel of the site. The wonderful thing about this is that you can choose themes based on function, much like you would choose modules to support desired functionality. Themes, though they deal mostly with the aesthetic interpretation of the site, often determine whether certain functionalities work well or not. If one does not recognize affordances or is confused by the interface of the site, then even perfect functionality will go unnoticed.

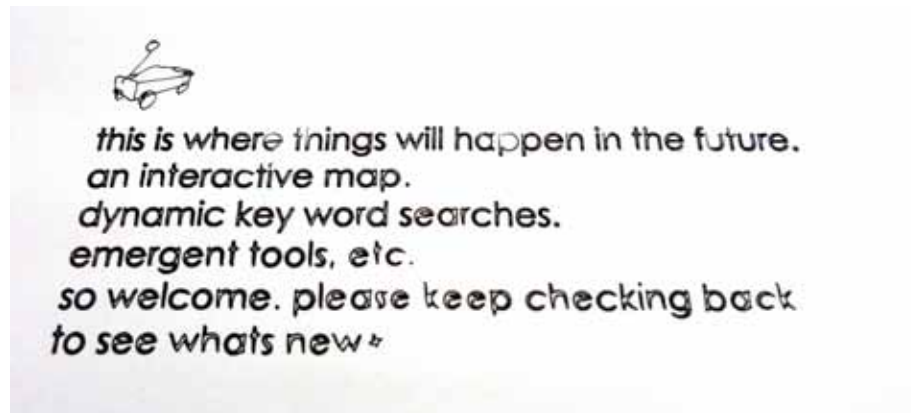
Though we had the opportunity to choose a theme, we recognized with the help of Jeremy's class, that the look of the site would be very important to our potential user group. Because of this, Meg and I chose to install the most basic theme, Zen, which allows the most flexibility with "styling" the Drupal site. With Meg's help we moved away from the original Drupal Theme (page) to something clean and uncluttered that we could improvise with and test coherently. (page) We did this with minimal CSS programming, with which I was doing my best to rapidly learn.

One thing that should be noted early on is that Drupal has a way that it prefers to look. It is difficult to design or implement something outside of a basic grid format. The reason for this was the "modules" and "blocks" structure of the Drupal Core. Modules, which are installed over the foundation of a Drupal core functionality, offer ways of interacting and using the database that are more advanced than a basic installation. The more

modules one adds, the more complex and dynamic the site might become. The most common way that the modules are put into use are through blocks, which live on the page very much like their name suggests, in a blocky fashion. There are other ways of adding functionality, like using “views”, but even these are limited mostly to a grid like existence. This traditional web site look, though it has its drawbacks, would be ok for the beta site, in which our main goal was to prove functionality and provide feedback.

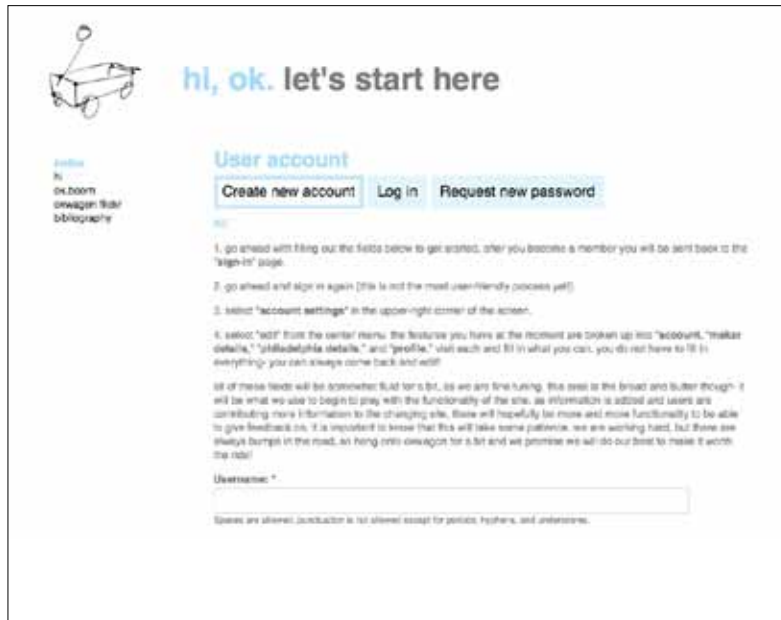
The first thing uploaded, our “hello world” install, was a movie we made in the shop of our CNC performing a task that it was rather ill suited for- writing with a sharpie. We arranged for it to write a note to our potential users of the database tool. The message read:

This initiated the protocol that we created to risk developing the site in a public manner. We wanted to keep the site public to garner real time feedback as we progressed. The particular movie (illus.)was shown to Jeremy’s class and elicited some excitement. Something as simple as a sharpie placed in a machine that is designed for a “cutting” tool writing a simple statement- this sums up in a subtle way what the nature of the okwagon database aimed to be. It should allow for such unexpected collaborations of methods, machines, and people.



The below screen-shot was our original sign-in page we developed. We had already established a logo of sorts to go with the site, mainly a stand-in until we focused on it specifically later. The Wagon was a sketch I had done the semester before after having come up with the project name. The wagon icon, like the name “okwagon” was simply a project mascot of sorts, and was completely open to changing during development. The name originated with a conversation with my 4 year old son Mchale. I asked him once what his favorite tool was. He responded with pointing at his wagon on the sidewalk- and not the tools in it.

While Meg and I had progressed outside of class through an accelerated Drupal development, the class had moved from site architecture to wireframing. An initial example of this exercise made it clear that there would be design that we would not be able to model in Drupal initially. The class, Meg, and I were becoming more aware of what the limitations were with designing in Drupal. We were reporting back, discussing some



The screenshot shows a web page with a light blue background. In the top left corner, there is a simple line drawing of a wagon with a handle and four wheels. To the right of the wagon, the text "hi, ok. let's start here" is displayed in a blue, sans-serif font. Below the wagon drawing, the text "And by the way, okwagon is a bibliography" is written in a smaller, black font. In the center of the page, the heading "User account" is shown in blue. Below this heading are three buttons: "Create new account", "Log in", and "Request new password". Below the buttons, there is a list of five numbered instructions for users. At the bottom of the page, there is a text input field labeled "Username: *" and a small line of text stating "Spam is allowed. Profanity is not allowed except for periods, hyphens, and underscores."

And by the way, okwagon is a bibliography

User account

Create new account Log in Request new password

1. go ahead with filling out the fields below to get started, after you become a member you will be sent back to the "login-in" page.
2. go ahead and sign in again (this is not the most user-friendly process yet!)
3. select "account settings" in the upper-right corner of the screen.
4. select "edit" from the center menu: the features you have at the moment are broken up into "account," "maker details," "philadelphia details," and "profile," click each and fill in what you can, you do not have to fill in everything- you can always come back and edit!
5. all of these fields will be somewhere fluid for a bit, as we are fine-tuning, this page is the broad and better though- it will be what we use to begin to play with the functionality of the site, as information is added and users are contributing more information to the changing site, there will hopefully be more and more functionality to be able to give feedback on. it is important to know that this will take some patience, we are working hard, but there are always bumps in the road, an okwagon for a bit and we promise we will do our best to make it worth the ride!

Username: *

Spam is allowed. Profanity is not allowed except for periods, hyphens, and underscores.

of the difficulty with trying to create a more interesting design. We decided to have Meg come in to give a one day class in Drupal to make sure that everyone understood the contrast between “blue-sky” site design and the reality of making a functioning prototype.

The one day class went relatively well, with everyone understanding most of the basics, and able to refer to the abundant online resources and Jeremy for later questions (which there were many). Jeremy and I agreed to let the students stay on a path of developing the site without constraints. Since Meg and I were operating completely within the constraints of Drupal, this would allow us a later avenue for regaining the excitement of the original discussions.

Matt Trigaux and Ben Jewitt were two of the more active contributors in class, showing sincere interests in seeing the site develop in a real context. Matt, who owns a screen printing business on South Street in Philadelphia, had many contributions based on his personal experience of being a small business owner and maker. He was, aside from being a collaborator, an example of the type of user I imagined using the site.

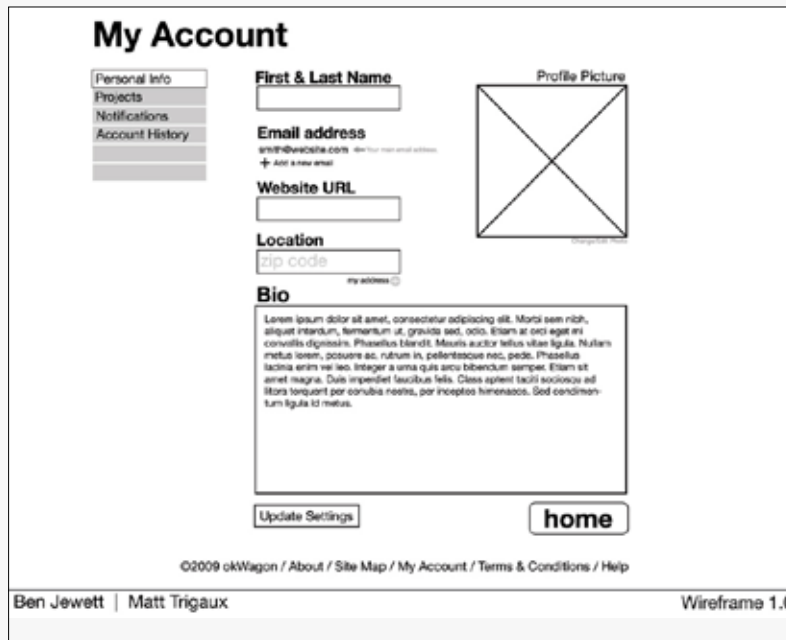
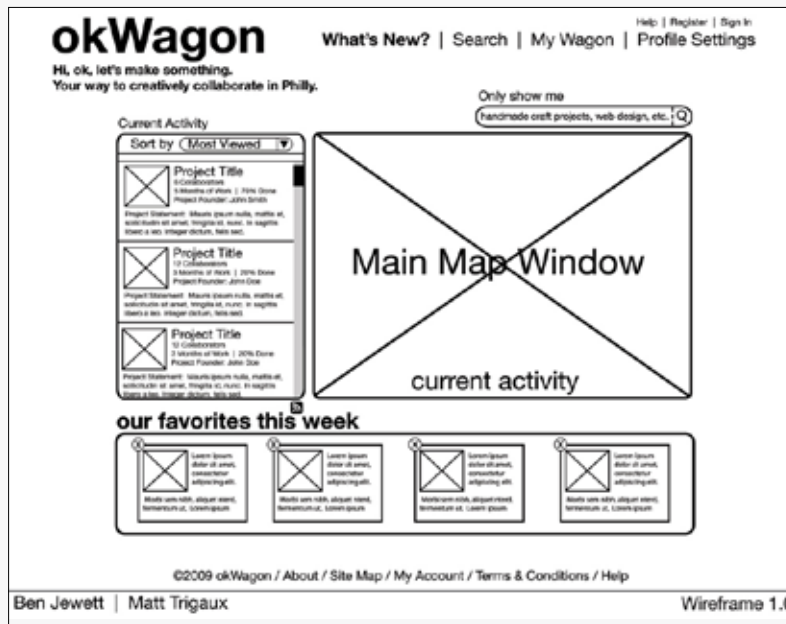
He and Ben’s illustrations are on the following few pages. Contrast the month long process that the class went through with the more “whiteboard” driven sketching and ideation that Meg and I went through. I am including some of these sketches (following the wireframes of Matt and Ben) not to illustrate what and how okwagon will look and feel, but to give more insight into the rather organic process in which we were engaged. We sacrificed clarity sometimes for agility and iteration. One of the advantages of developing something like a Drupal site is that you can get something up quickly and have the ability of trying out style or function by adding and taking away. This is counter to the more organized and structured linear development that I was going through with Jeremy’s class. What this allowed was learning on a different level. We were able to learn how to work

with Drupal as opposed to forcing Drupal to behave in ways it didn't want to. This would be similar to trying to design with a given physical material based on its strengths and not its weaknesses.

What was learned from Matt, Ben, and the rest of the class's work is that there were common themes. Like the learning that happened when reworking the thesis statement, having an understanding that everyone was arriving at solutions that had certain commonalities added some validity to their potential use.

Meg and I, meanwhile, had achieved a somewhat usable site within a couple of weeks of working. (page) We were able to get the GMap module to work after some help from other developers and the Drupal community. This was one of the primary features of the site, the main "affordance." It was essentially the well known Google Map embedded in our site. We could control what types of information appear on the map through a powerful feature of Drupal called "Views." We could create a "view," which would create a "page" or a "block" that we could incorporate into the site page with other features. We were also able to create different markers to designate different types of information on the map. It was starting to look like what we had imagined in our initial discussions. We also used "views" to create more functional pages for the rest of the site. These included the pages that displayed various database information that was searched or requested.

We were at a critical point of refining the type of information that we would collect. Creating fields, or categories became the main design challenge. We consulted with community members over this. Other shop supervisors, various makers, local vendors, etc. This proved to be more difficult than it was initially thought it would be. When you are dealing with information, the hierarchy that you create to display and catalog the information becomes incredibly important.



illus. from MMDI 202 Spring 09 by Ben Jewett & Matt Trigaux

Profile Settings

[What's New?](#) | [Search](#) | [My Wagon](#) | **Profile Settings**

[Help](#) | [Delete Account](#)

Personal Info

Projects

Notifications (4)

Account History

Password

First & Last Name

Email address

Website URL

Location

zip code

Bio

Update Settings

Profile Picture

Change/Edit Photo

©2009 okWagon / [About](#) / [Site Map](#) / [My Account](#) / [Terms & Conditions](#) / [Help](#)

Ben Jewett | Matt Trigaux

Wireframe 2.0

okWagon

[News](#) | [search](#) | [log out](#) | [sign up](#) | [about](#)

[my wagon](#)

steel wholesale

sort by: closest to me

Tioga Pipe Supply Co Inc

2450 Woodstock Ln, Philadelphia, PA

(215) 833-0700

Category: Steel Pipe & Tubes (Manufacturers)

.83 miles from you

Aze Supply Co

114 Forest Ave, Norweth, PA

(610) 647-3400

Category: Pipe Wholesaler

Guadalupe City Manufacturing Co

116 Dairy Commons Ct, Folcroft, PA

(610) 366-4770

Category: Industrial Pipe Wholesaler

steel wholesale in Philadelphia, PA

☒ selected search result
 ☐ all results
 ☐ my wagon

Tioga

Tioga Pipe Supply Co

www.tioga.com

.83 miles from you

add to wagon

Your Wagon

add to wagon

add to wagon

add to wagon

add to wagon

[About](#) | [Site Map](#) | [Community Guidelines](#) | [Help](#)

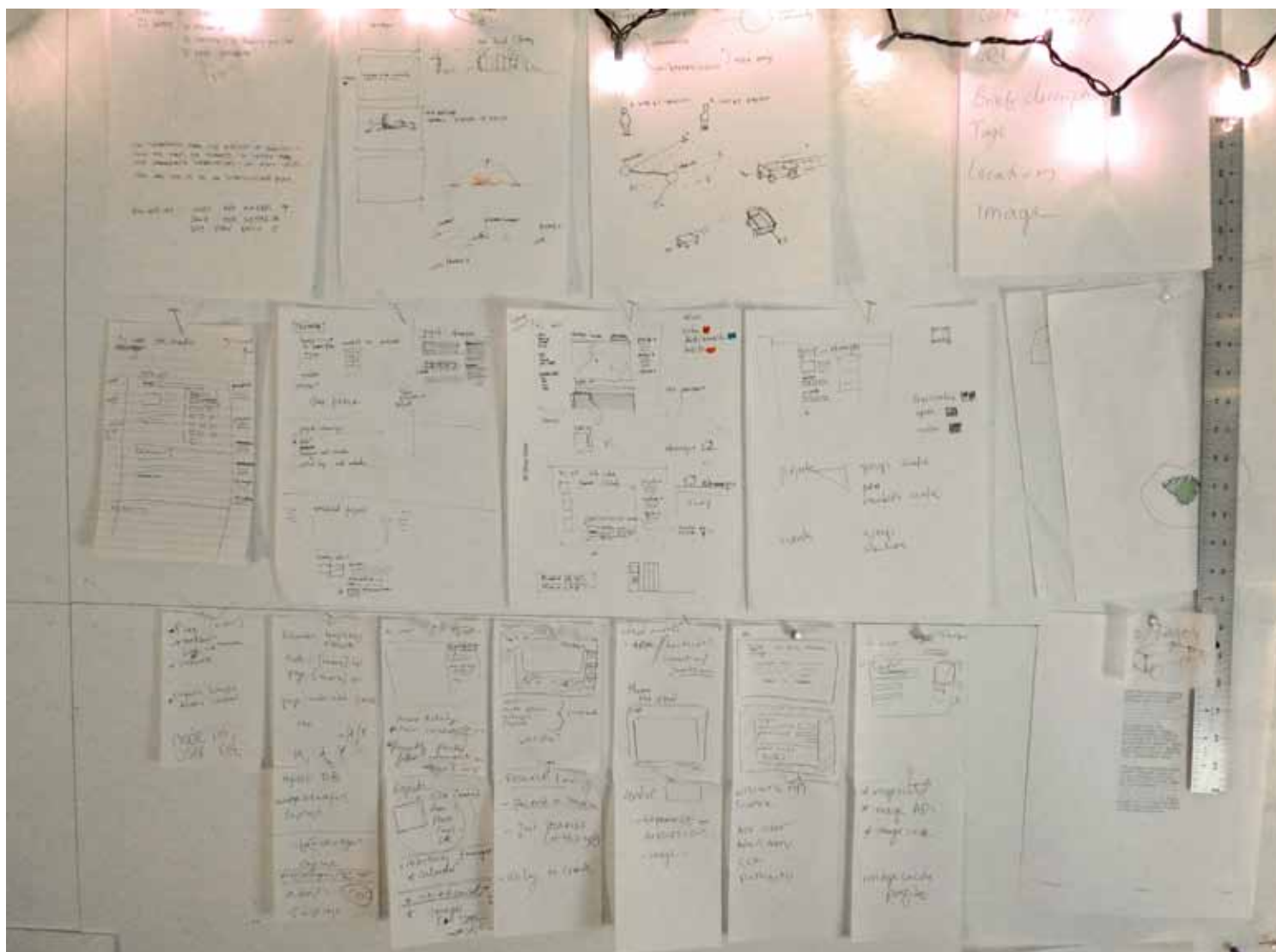
©2009 okWagon / [Terms & Conditions](#) / [Privacy Statement](#)

Ben Jewett | Matt Trigaux

Comp Draft 1

illus. from MMDI 202 Spring 09 by Ben Jewett & Matt Trigaux

80

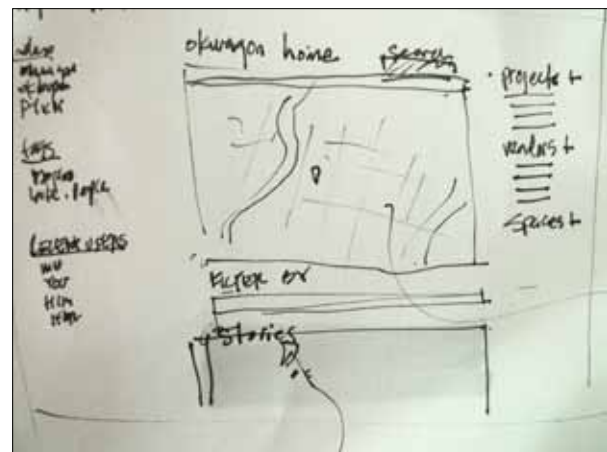
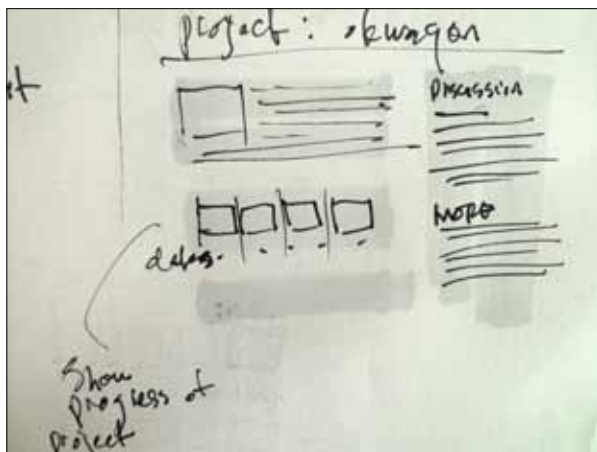
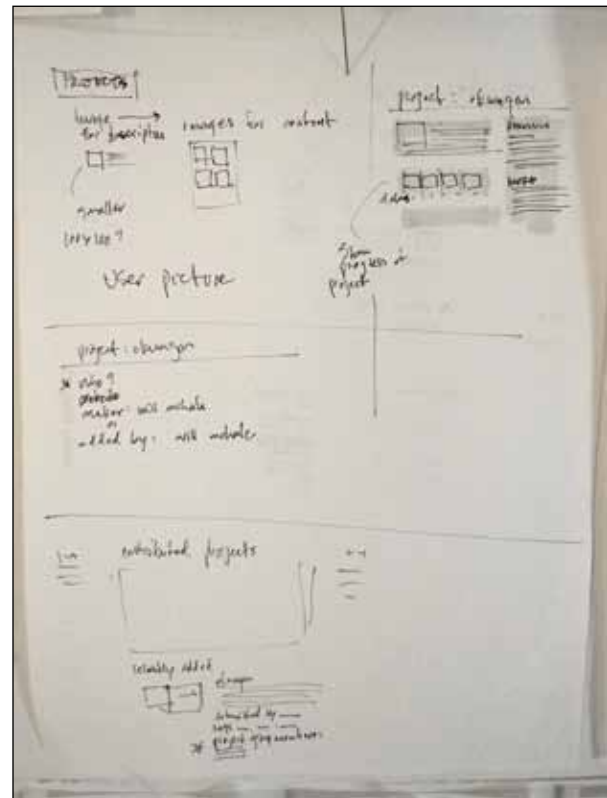


To explain further why this was so important, it is useful to remember why we were interested in creating the database in the first place. We wanted to create a “peer” based database, a rolodex of sorts that would not become lost in the overly specific language of any one profession or craft. In order to do this, we would have to agree to the use of specific “categories” that could contain the larger amounts of data that would potentially be collected. These categories could be thought of as the large buckets that would hold the data. Users would have to categorize the information into a type of information, so that it could later be more easily sorted if needed.

A common example of this would be the common arrangement of email client servers. When you receive emails, you have the opportunity to rearrange your entire collection by “fields.” Meaning, if you desire you can click one of several field menus at the top of the list of your emails to reorganize according to the type of field. If, for instance, one wanted to sort by the names of the sender, one simply clicks the “name” menu button at the top of the column over the names of incoming emails. The list instantly re-sorts itself to provide you your incoming emails by the names in alphabetical order. If one wants to sort by date, you simply click the menu item above the date column, and presto- you can sort through your emails in order of the most recently received..

So.. These categories that we might want to use later are very important, and must be understood by as large an audience as possible. This, in a very big way, is one of the most important designs of the sight. In the end, it was settled that there would be three main categories:

Projects
Resources
Events

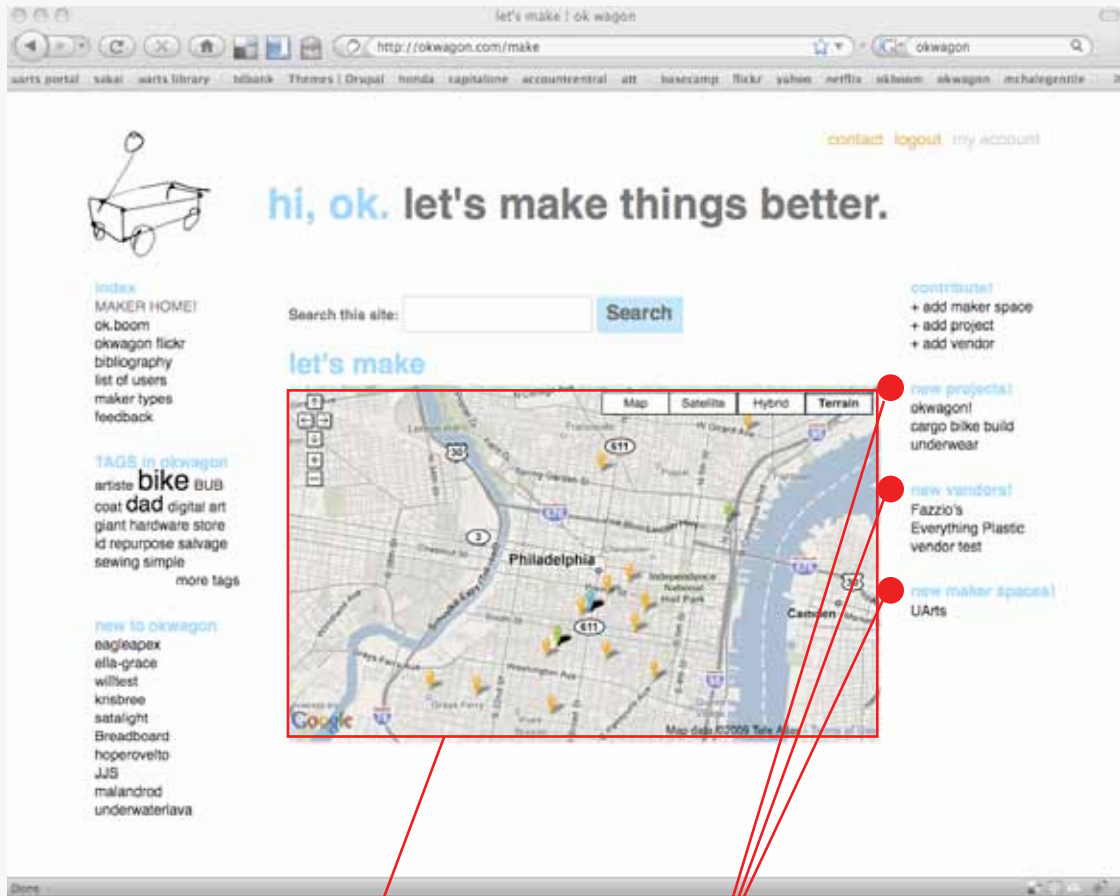


These larger categories are also important in terms of having allowances for different types of data presentation. A user would upload different information for a project than they would a resource. This becomes more useful when designing features associated with these different types of information. With projects there would be more of a potential for a type of gallery, which is exactly what we did. Events would potentially have a calendar feature on the related page, one of the suggested features by beta users. We kept things minimal at first until we acquired our first users to get some feedback from.

The taxonomy feature of Drupal was taken advantage of to help users navigate the vocabulary of the resources. When uploading information, it all has the potential to have key words associated with the data. This is what gives the site its “peer” authored feel. Tag clouds were also implemented, being a feature that most users already have some familiarity with. Where it might not be useful to actually sort through the tag cloud for the appropriate word or words, it does show that there is this overall affordance to the site. From testing the site with users, we found that the simple presence of the tag cloud increased the comfort level when searching for information. In the scenarios in the following section, we go through a search to show the user progression from home site to information. This is the most basic function of the site and the one we wanted to be the simplest to achieve.

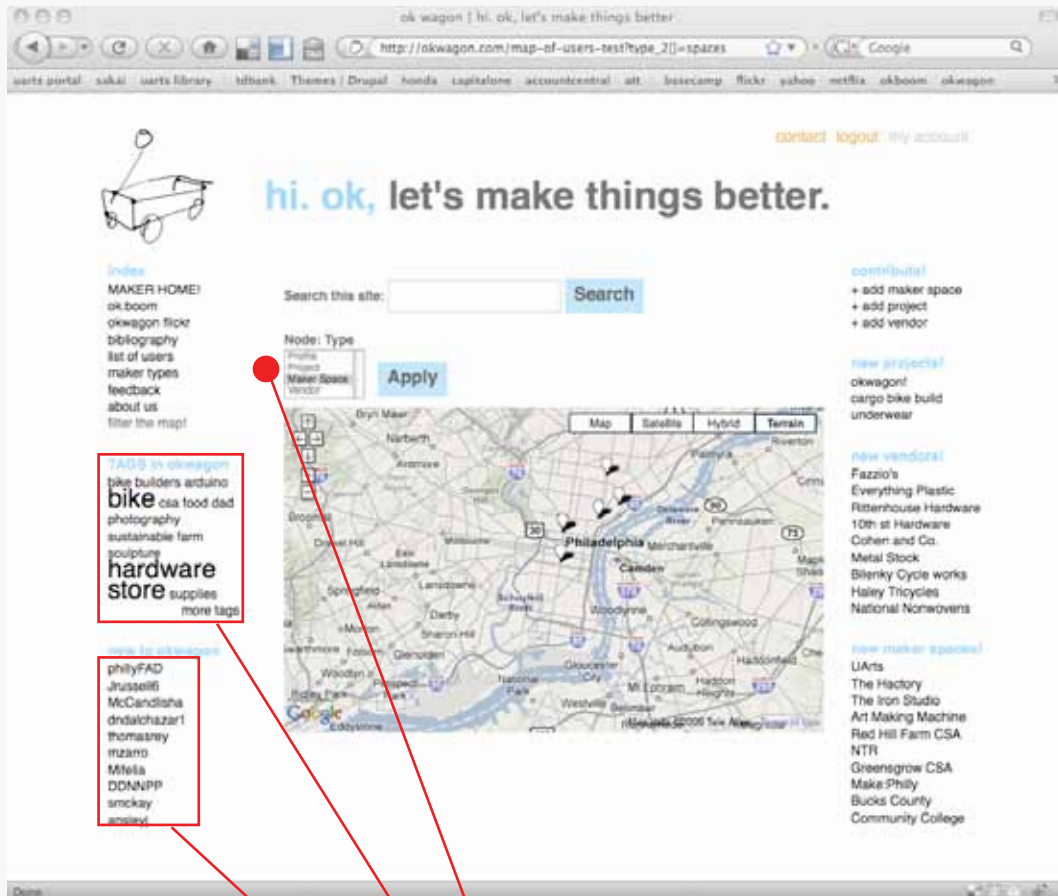
Users found it fairly easy to navigate. It wasn't until they were asked to create a user profile and add information that it became more difficult for some. This was good feedback, and made us realize that the “form” feel of the pages that required filling out could use a great deal of simplification, much of which is difficult in Drupal. This was one area where there was a realization that custom programming of a module would be a benefit.

In the screen captures following, we point out some of the basic features.

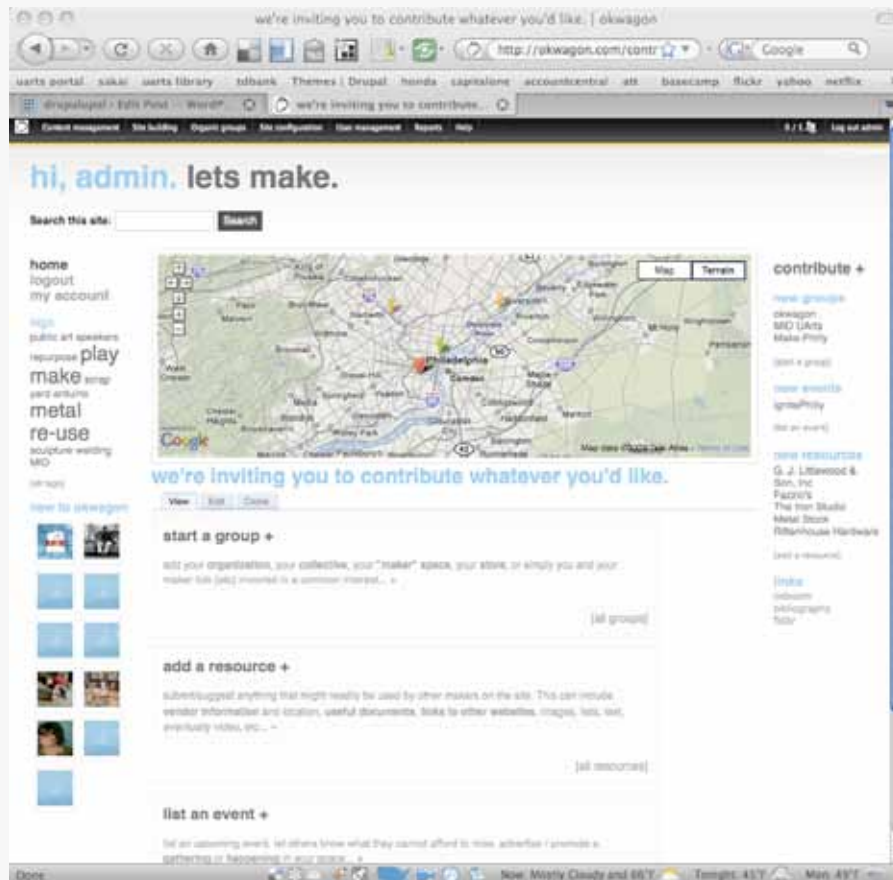


GMap

Resources



- Filters
- Tags
- Users





[contact](#) [login](#) [my account](#)

hi. ok, let's make things better.

[home](#)
MAKER HOME!
ok boom
okwagon! Baku
biography
list of users
maker tools
feedback
about us
filter the map!

[tags](#) [to okwagon!](#)
bike builders farm food
sustainable arduino
photography supplies
psa
hardware
store
sculpture
bike
ed
[more tags](#)

[view to okwagon!](#)
phillyFAD
Jhusen6
McClardisha
drachazar1
thomasney
mzams
Milla
DONCPP
smokay
aristoy

Search this site: [Search](#)

cargo bike build

[View](#) [Edit](#)

Submitted by will mohale on Mon, 2009-03-23 22:34
in: [bike](#) [cargo bike](#) [sustainable](#) [transportation](#) [urban](#) [used bikes](#)

Location

u4rt6
320 south broad st. philadelphia pa 19102
United States
38° 56' 47.1882" N, 75° 9' 34.8782" W
[See map](#) [Google Maps](#)



a cargo bike for philadelphia, capable of carrying heavy loads, but with detachable part/ parts for when you just want to ride...

[Add new comment](#)

Comments

Philly Bike Builders

Submitted by [adamingen](#) on Sun, 2009-04-05 15:58

Check out these two companies in the city who have their own take on cargo bikes for the city.

Stinky Bike Works - [www.stinkybikeworks.com](#)
Haley - [www.haleybikes.com/](#)

community

- [add maker space](#)
- [add project](#)
- [add vendor](#)

new project

[okwagon!](#)
[cargo bike build](#)
[underwear](#)

new vendors!

Fazzle's
Everything Plastic
Pittsburgh Hardware
10th st Hardware
Cohen and Co.
Men's Stock
Stinky Cycle works
Haley Tricycles
National Nonwovens

new maker spaces!

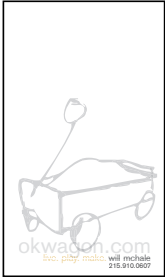
LIARs
The Factory
The Iron Studio
Art Making Machine
Red Hot Farm CSA
NTN
Greenagrow CSA
Make:Philly
Bucks County
Community College



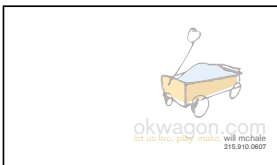
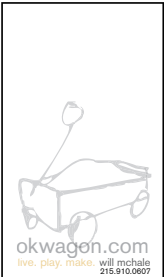
We were fortunate enough to have many immediate users. What caught us off guard was that it was actually too many. Through word of mouth and mention on several Philadelphia blogs, we went from 10 users to 50+ users. This was a startling event, and one that happened within a week or so. It made us realize that we might not be ready for this type of transparency. There was a discussion with Jeremy and Meg about how we might potentially lose interest in the long run if we acquired too many people too quickly when the functionality of the site was not fully realized.

So we took the site down with a temporary “will be back” message. This was all new to me, this method of taking care of the users. It was also apparent that we would need to start thinking more specifically about branding the site, giving it a more specific look that we might be able to communicate some of the site's subtle underpinnings. The initial potential users of the site were going to be made up mostly of the creative sector of Philadelphia, and most likely the younger portion of this sector. This is not to say that we would not attempt to grow the user base to include a much broader base.

I had the opportunity to speak at a Young Entrepreneur Conference in Philadelphia around this time. This was a good opportunity to package what we had and attempt to make it more legible to a new audience unfamiliar with what Okwaggon was about. I quickly designed and printed some business cards that we could hand out that might enlighten a few people about the nature of the site. The card we chose to print has the simple statement, “i live. i play. i make.” a blank area is provided indicating that the person handed the card should sign his or her own name to it. This simple affordance includes the user immediately. It says simply that the users are the real owners of the site; and thus, the ones that should be representing the site.



will mchale / 215.910.0607 / will@okwagon.com

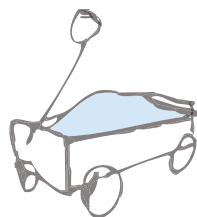


will mchale



meg frisch





okwagon.com

x

i live. i play. i [make](#)



During the conference I ended up describing the site so many times that I ended up editing the site's description to, "It's an open database for Philadelphia Makers." This was a great exercise that tricked me into editing the thesis statement to a one-liner, which was an important step in understanding the simple function of the site. It communicated more of the humble nature of the site, and the fact that it was doing something rather simple, and not necessarily starting a revolution. This was a sobering understanding that helped us to step back and redress what we expected with the beta site.

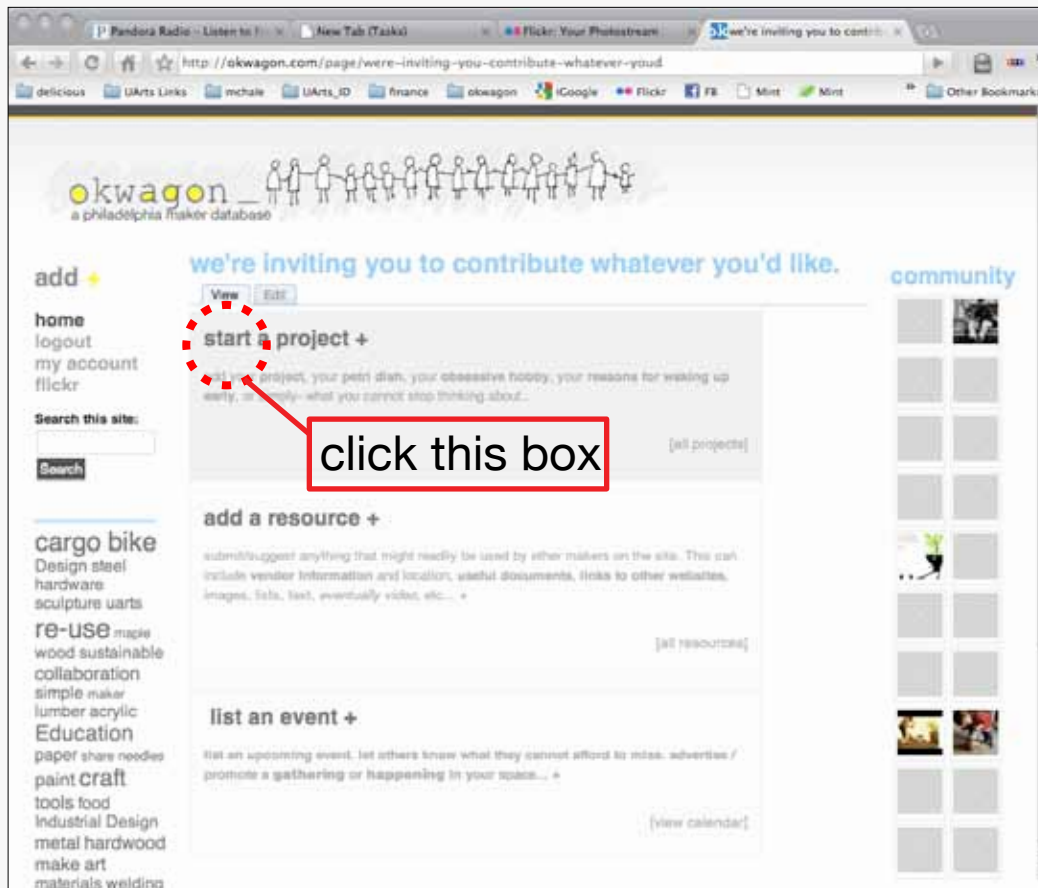
We went through the process of redesigning the site in an attempt to take what we learned and make a few changes before the thesis defense at the end of the semester. It wasn't until later that I realized the mistake of this action. I should have focused more on the users and attempted to get more feedback with what we already had. As it was, we did not have a proper process in place to accurately digest the information that we had taken in. The changes we attempted actually made the site more complicated and more difficult for users to navigate. All of the information we received in the thesis defense reaffirmed this. There was an overall criticism of the "scope creep" of the site. Several thesis committee members commented on the desire to see the site's function in a more simple context without the forced features of blogs, feeds, groups, attempts at project management, etc.. We had made the cardinal mistake of letting go of the simple foundation of the open database. The function was getting lost in the tumultuous expanding feature base. We took note and made the decision to pull the site down again to redesign. This time, we would make it simpler, lighter, and more functional. We are still in the process of this, which we hope to move forward on this summer 2010.





overlapping initiatives of different people with similar ideas

1



1.2

The screenshot shows a web browser window with the URL <http://okwagon.com/node/add/resource>. The page is titled "Create Resource" and includes a sidebar with navigation links like "home", "logout", "my account", and "flickr". A search bar is also present. The main content area contains a form for adding a resource, with a red dashed box highlighting the "Title:" and "Image:" fields. The "Title:" field contains the text "Greenable!". The "Image:" field has a "Choose File" button and an "Upload" button. Below the image field is a section for "Tags" and a "Website:" section with two rows of "Title:" and "URL:" fields. A "Description:" field is at the bottom. A red box with the text "fill out form" points to the form area.

okwagon
a philadelphia maker database

add
home
logout
my account
flickr

Search this site:
Search

bike store maple
knitting bicycle
art
woodworking
wood sculpture
Design craft
lumber uarts
hardware share
cargo bike
simple
sustainable tools
paint
collaboration
make industrial
Design shop
needles paper
textiles

Create Resource

Please briefly describe the resource you wish to suggest to your fellow makers!

Title: *
Greenable!

Image:
Choose File No file chosen Upload
Maximum Filesize: 2 MB
Allowed Extensions: jpg jpeg png gif

Add another item

Tags:
tag yourself (what type of maker you are) , your contribution, your project, your group, an event, etc. - add descriptive words separated by commas. look to the tag cloud at right for some ideas

Website:
Title: URL:
Title: URL:

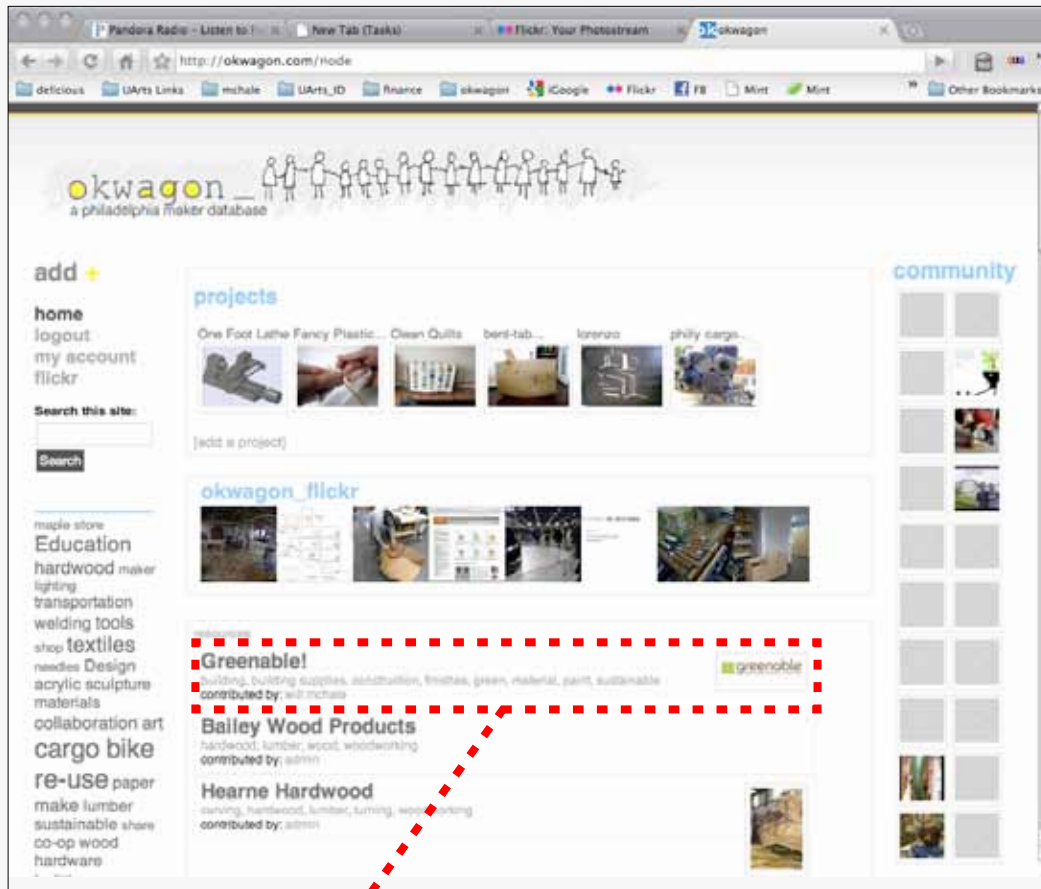
Enter website of the resource you are contributing if there is one

Description:

community

fill out form

1.3



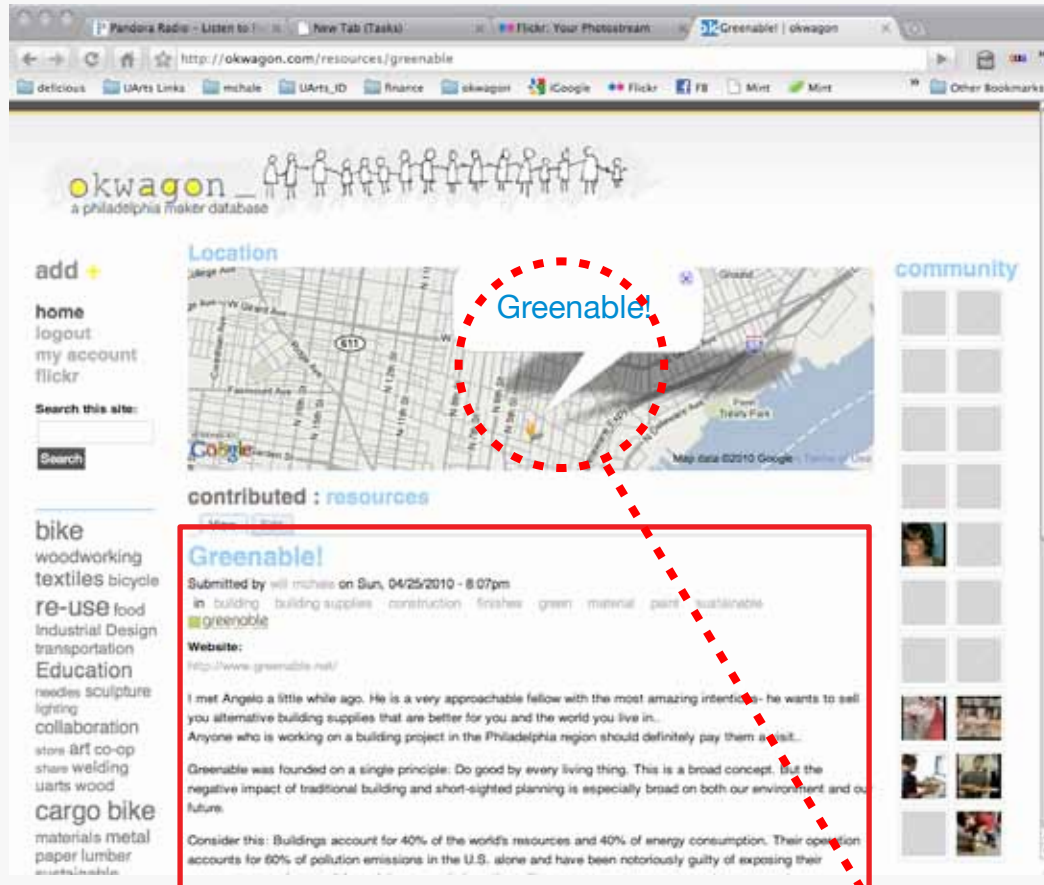
resource added!

...

if you click on,

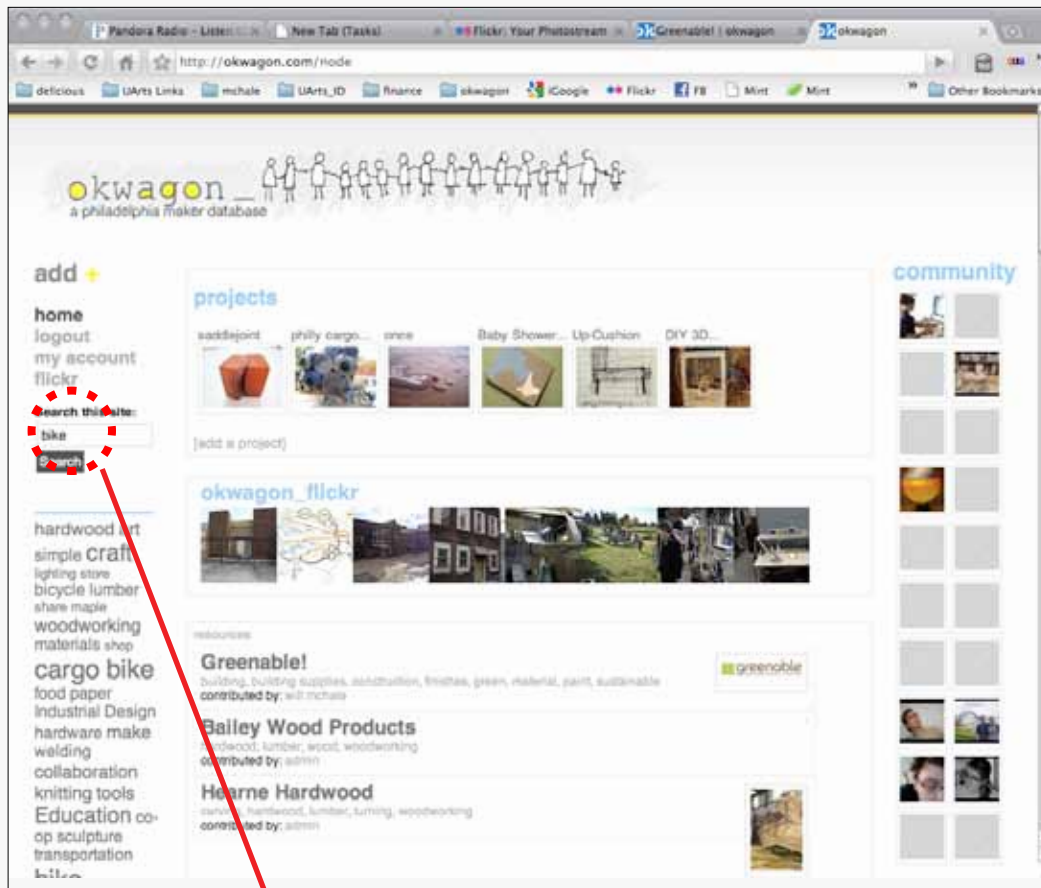
...

1.4



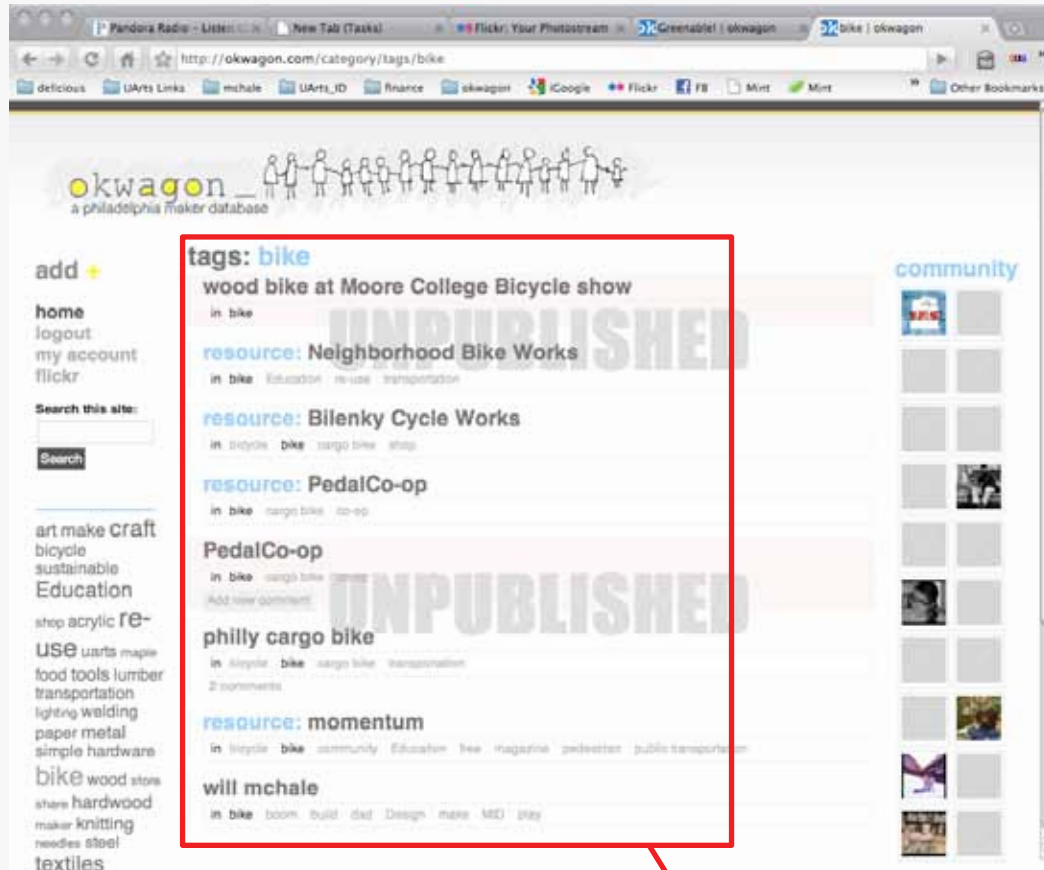
information & location

2

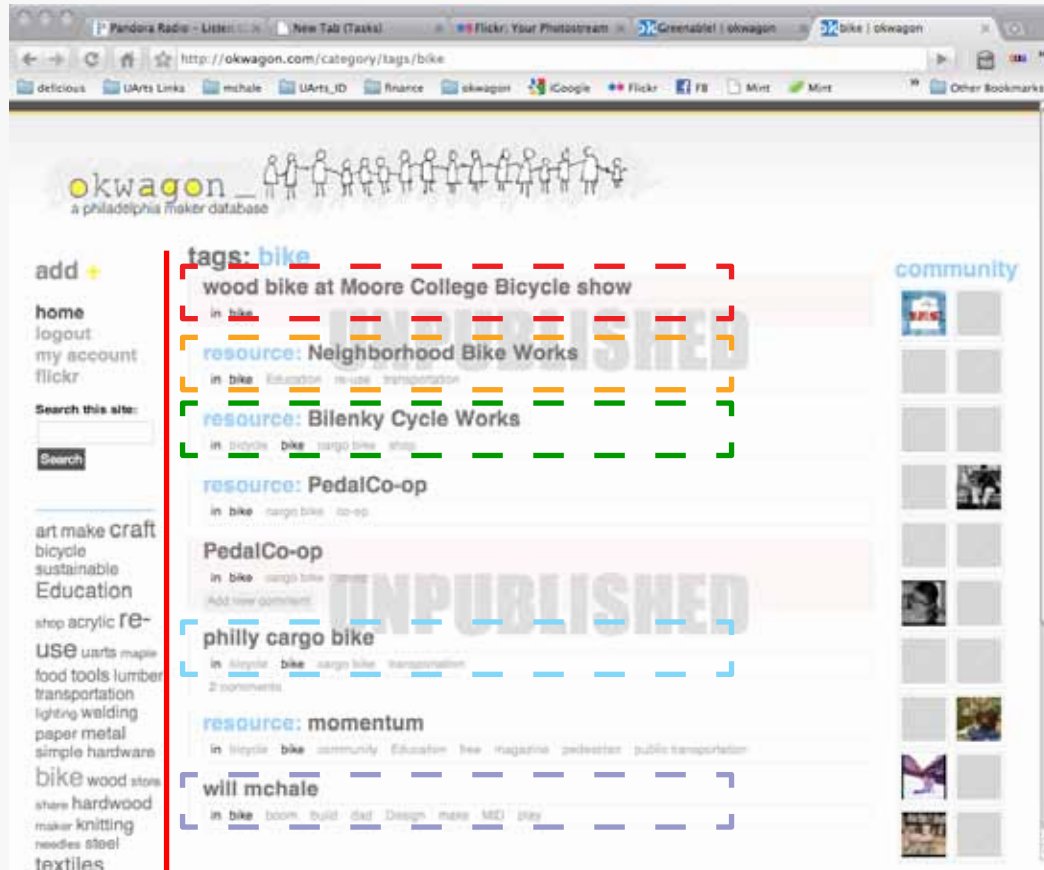


fill in search query & ...

2.1



2.2



aggregates types

events non-profits store-fronts projects people

all resources. together in one community-shared digital rolodex.



conclusions

6

In a reprinted article from 1982 Colin Ward discusses how crafts skills flourish in a faltering economy. An example is Paul Weston, who runs Grange Farm Recycled Tools. “Finding that his own garden tools, newly bought, just broke in use, and that the only local jobs he could get earned about a third of the national average wage, he set up a business gathering and repairing old tools, building himself a forge and learning as he went along. ‘We have to relearn a lot.’ He says. ‘It has taken us a couple of thousand years to acquire certain skills and 50 years to lose them.’”¹

This is the premise of this story, that we are progressing and moving at an exponentially faster rate, capable of things people would not have dreamed of even 30 years ago. More people have more access and potential than ever before. Yet we seem to be losing something along the way.

James Gleick writes in *Faster*: the acceleration of just about everything about how time has taken us hostage. He closes his book with the simple graph that most everyone is familiar with. It goes something like this:



1 Colin Ward, “The Question of Survival,” *Crafts*, Dec 2009, reprinted from *Crafts* no.59

“It depicts the long-threatened population explosion...It represents the growth in computer ownership in the last few decades. The number of internet hosts rising over the last two decades. Software Patents granted from 1971 to present. Chest-Pain emergency departments in the 1990’s. Millions of instructions per second carried out by matchbook-size computer. Potential Sexual Partners. Mustards. Published Words. Four minute milers. Everything, it seems, that grows out of the interaction between human beings. The amount of stuff to do, divided by the amount of time available.”

He goes on to discuss the feedback loop this generates. “The more telephone lines you have, the more you need. The more patents, the more patent lawyers and patent search services...The complications beget choice; the choices inspire technology; the technologies create complication. Without the distribution and manufacturing efficiencies of the modern age, without toll-free numbers and express delivery and bar codes and scanners, and above all, computers, the choices would not be multiplying like this. If a graph can be a cliché, the graph for exponential growth has become a cliché.”²

It is when one looks at this simple graph and begins to understand that it, indeed, does apply to almost everything humans touch, that it begins to become a scary equation. Several books I have read more recently seem to offer a balm of sorts for this thinking. In *The Good Life*, Helen and Scott Nearing document their move from New York City to a Farm in the Green Mountains in Vermont. Written in the 1950’s, it represents one of the first works of 20th Century non-fiction to document living outside of the normal segment of society to pursue “self-sufficient living.” Their aim was to,

2 James Gleick, *Faster: the acceleration of just about everything*, (UK: Little, Brown and Co. 1999) p.275-276

“search for simple, satisfying life on the land, to be devoted to mutual aid and harmlessness, with ample margin of leisure in which to do personally constructive and creative work.”³ Their writing, far from being a utopian manifesto, offered simple, almost scientific ways and means of living a simpler life. What is most startling about this work is how it debunks some of what we associate with living an agriculturally based life, or a life of work. Their aim was, “to get a years livelihood in return for half a year bread labor...Occasionally (they) would work steadily for months and then take of months away from work.”⁴ They were trying to accomplish living more with less.

Another text that I found very affecting was *Better Off: Flipping the Switch on Technology*. In this book, Eric Brende tackled the similar question of “what is the least we need to live the most.” While studying at MIT, he began his idea of a thesis that would look at technology and how it had come to “hold society hostage.”⁵ He devised a real life experiment much like the Nearings did many years before, living for eighteen months with his wife Mary in a community that eschewed technology.

Like the Nearings, he discovered that a quality life was indeed possible without the contractual obligations of technology. In one passage, he describes his wife and his experience washing clothes with a crank-handled machine. “What a novelty is was. Actually washing clothes- not pushing a button and hearing a hum, but washing your own clothes without the distant power suppliers disgorging pollutants into the biosphere. It was really quite cathartic for both of us. We were cleaner in more ways than one. And whenever Mary did the laundry again, I sensed zest. This

3 Helen and Scott Nearing, *The Good Life*, () p.6

4 Helen and Scott Nearing, *The Good Life*, ()

5 Eric Brende, *Better Off: FLipping the Switch on Technology*, () p.

was productive. Thought and action coincided.”⁶ It is like this in much of the book, as Brende discovers the hidden values in the things that we left behind in adopting newer, faster, more efficient means of living. A simple harvesting, or barn raising were much more complex events than the simple value of the work being done. There were social, physical, and spiritual happenings that were not necessarily spoken about, but would be appreciated at the end of the day when lying in bed at piece with a days work.

In *The Bubble: Designing in a Complex World*, John Thackara repeats a quote from Ivan Illich from 1973, “I believe that a desirable future depends on our deliberately choosing a life of action, over a life of consumption. Rather than maintaining a life-style which only allows to produce and consume- a style of life which is merely a weigh station on the road to depletion and pollution of the environment the future depends on our choice of institutions which support a life of action.”⁷

I would like to argue the same thing. Despite my using examples of people who turned their back on technology, it is not my intent to suggest doing this. I would argue, as Brende most likely would, that it is not technology that is causing us hardship, but our default assumptions that technology is always the answer, that more efficient means are always going to be better for us. When we give up walking, to ride a bike, or a bike to drive a car, we give something up in the process. We have made assumptions too long that faster is better, that more for your money is the way to go. I would argue that for each step we take in adopting a new tool or technology, that we take a look back and take time to understand what it is we are losing with the step forward, and if it is worth it to adopt the new unconditionally.

6 Eric Brende, *Better Off*, p.23

7 Ivan Illich, quoted by John Thackara, In *The Bubble: Designing in a Complex World*, (Cambridge, MA: MIT Press, 2005), p.75

Long ago Marx recognized these tendencies: “Machinery is put to a wrong use, with the object of transforming the workman, from his very childhood, into part of a detailed machine... Here as everywhere else we must distinguish between the increased productiveness due to the development of the social process of production, and that due to the capitalist exploitation of that process...In handicrafts and manufacture, the worker makes use of the tool, in the factory, the machine makes use of him.”⁸

In *Shop Class as Soul Craft*, Matthew Crawford argues for looking again at the value of learning by doing. Crawford talks about how we made choices long ago with the Tayloristic assembly line that resulted in leaving important qualities behind. To turn workers into parts of a system, with no autonomy and a divorce from an expectation of quality over quantity, is the equivalent of saying “no” to what makes us best at being human.⁹ Reclaiming the value of work and the knowledge one gains through simple heuristic means is a necessary step in any argument about making things better, especially in context with the very real cliché of exponential everything.

The creation of another internet “tool” was not my main intent with this thesis. I am much more concerned with understanding our simple day to day work flow, the process of being human and attempting to live a good life through one’s work. Okwagon is an attempt at taking something that is a given and stopping for a moment to address what might have been left behind. Adding the local context back to the social network; creating peer related ways of looking at skills, trades, professions, and resources; and most importantly encouraging local collaboration and real physical contact and production on a smaller, lighter, and more flexible scale- this is what Okwagon is about. I propose we turn Philadelphia into a Lab, or one giant shared shop, to take this discussion further- creating critical

8 Eugene Kamenka, ed. *The Portable Karl Marx*, 1983 p.75

9 Matthew Crawford, *Shop Class as Soul Craft*, ()

human moments in sharing, collaborating, and making that will redefine Philadelphia not as The Workshop of the World, but the Workshop of the People of Philadelphia. Let's focus on the ways and the means and have confidence that the rest will follow.

In the process, let's focus on what other things this might allow in areas such as education, employment, live/work arrangements, etc. If we are able to subdue the "white noise" of information overload by simple peer related filters and apply this to local systems, then we can begin to reconstruct our communities in very real, bottom-up ways. If local makers and tinkerers are able to truly "see" what is available to them in the community, whether it be a machine resource or a person's expertise on a process, there will be more "action" and growth. Not growth on an exponential scale, but a measured growth in a quality of life. Okwagon is a very simple tool that will offer a step in this direction.

What was learned with all of the feedback that we received, is that there is certainly a strong need and desire for this tool. The design of it, though still in process, has been resolved to a higher level of understanding. Simple and not Complex is the most appreciated knowledge gained from the process. Ways of accomplishing this while still providing a real tool will be part of the next step. We will engage further with the local community and implement a fully functional version of Okwagon by the end of the summer, 2010. Making Okwagon a usable tool will require the community and intended user's support. For this we will actively market the site in ways that the community might appreciate, such as planned events that celebrate makers, their made products, and the processes by which they make them. We will also participate in a low-fi guerilla marketing campaign that will be about empowering makers. Our final goal will be for Okwagon to become a brand that communicates a very specific quality of life- that it is not the product, but the making that counts.

bibliography

Lenn Adamson, ed. *The Craft Reader* ()

Christopher Alexander, *A Pattern Language*

Marshall Berman, *All That is Solid Melts Into Air* (New York, NY: Penguin Books, 1988)

Giovanna Borasi and Mirko Zardini, ed. *Sorry, Out of Gas: Architecture's Response to the 1973 Oil Crisis* (Canadian Centre for Architecture)

Eric Brende, *Better Off: Flipping the Switch on Technology* (Harper Perennial 2005)

Matthew B. Crawford, *Shop Class as Soul Craft: An Inquiry Into the Value of Work*, (New York, NY: Penguin Press, 2009)

Len Fisher, *Rock, Paper, Scissors: Game Theory in Everyday Life* (New York, NY: Basic Books, 2008)

James Gleick, *Faster: the acceleration of ust about everything*, (UK: Little, Brown and Co. 1999)

Paul Hawken, Amory Lovins, and L. Hunter Lovins, *Natural Capitalism: Creating the Next Industrial Revoltuion* (Little, Brown and Co. 1999)

Jane Jacobs, *The Economy of Cities* (New York, NY: Vintage Books, 1970)

Steven Johnson, *Emergence*

Eugene Kamenka, ed. *The Portable Karl Marx* 1983

Kevin Kelly, *Out of Control: The New Biology of Machines, Social Systems, and the Economic World*, <http://www.kk.org/outofcontrol/contents.php>

Kevin Kelly, *New Rules for the New Economy: 10 Radical Strategies for a Connected World* (New York, NY: Penguin Books, 1998)

Helen and Scott Nearing, *The Good Life* (New York, NY: Schocken Books, 1970)

Mike Rose, *The Mind at Work: Valuing the Intelligence of the American Worker* (New York, NY: Penguin Books, 2004)

Kirkpatrick Sale, *Human Scale*. (Coward, McCann & Geoghegan, New York 1980)

E.F. Schumacher, *Small is Beautiful: Economics as if People Mattered* (New York, NY: Harper & Row, Reprinted 1989)

P. Scranton, W. Licht, *Work Sights: Industrial Philadelphia, 1890- 1950*

Richard Sennett, *The Craftsman* (New Haven, CT: Yale University Press, 2008)

Don Tapscott and Daniel Williams, *Wikipedia: How Mass Collaboration Changes Everything*, (April 17, 2008)

Dan Tapscott and Anthony D. Williams, *Wikinomics*

John Thackara, *In The Bubble: Designing in a Complex World* (Cambridge MA: MIT Press, 2005)

Steven Weber, *The Success of Open Source* (Cambridge MA: Harvard University Press, 2004)

Magazines:

Make: Techonlogy on Your Time Vol. 21

American Craft feb/mar09, oct/nov09, jun/jul09, feb/mar10, dec/jan10

I.D. jan/feb10

Next American City july 2004, Summer07, Winter08

Grid: Towards a Sustainable Philadelphia

"The World of Connections," The Economist. Jan.28 2010

