

Tools for Togetherness:
Building Social Networks through Public Tool-making

by

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Submitted to the
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in Partial Fulfillment of the Requirements for the Degree of

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Abstract

Our world appears connected with pervasive technology and information saturation. However, beneath the surface, a deep sense of disconnection and individualism persists, exacerbated by the COVID-19 pandemic, which claimed 7 million lives and prompted a reassessment of our societal values towards more collective orientations.

This thesis investigates how individuals can help foster a society that values care, support, and mutual aid. By developing, documenting, and disseminating self-organized public tools—including flyers, posters, and installations that facilitate relationship-building—this work aims to challenge the prevailing alienation by demonstrating the importance of connectivity and exchange. Embedding mutual support and connectivity into daily routines should not merely be a contingency for crises but a fundamental component of our reality. The essence of this project is to disseminate this concept through public engagement installation art within the MIT and greater Cambridge community to cultivate awareness and actively engage the audience.

The book details three social experiments designed to enhance connectivity and mutual support, with detailed documentation and reflections from a facilitator's perspective on the complete process for anyone who hopes to start practicing small.

Thesis Supervisor: Cristina Parreño Alonso

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As I reflect on the journey of this thesis project, I am reminded of the incredible support and guidance I have received along the way. Completing this project would not have been possible without the invaluable contributions of numerous individuals whose encouragement and assistance have been a constant source of strength.

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fig 1. help recieved from friends throughout the process

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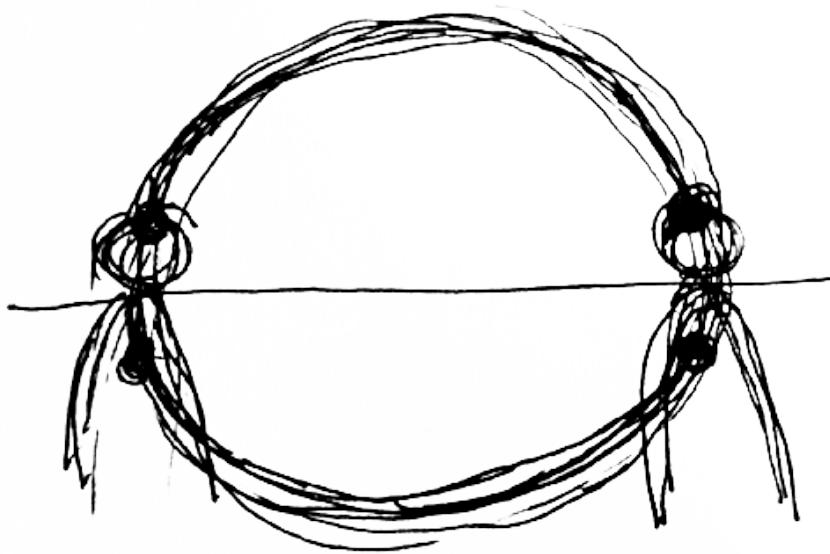


fig 2. exchange process diagram by Julia Cuddyer

i. introduction

on what's missing

We inhabit a world marked by a profound sense of alienation. It encompasses perceptual estrangement, neglect, and a pervasive sense of isolation. It is about not seeing, not reacting, and not asking -- indicative of numbness to the experiences and suffering around us. Perceptual alienation permeates all levels of our existence, from people to nature to emotions. The obsession with capitalism, efficiency, rapid urbanization, and linear clock time contribute significantly to our society's widespread sense of disconnection and emotional detachment. Since the rise and gradual fall of COVID-19, a severe acute global pandemic that started in 2019, humanity has again just begun to grasp the urgent and critical need for interdependence, collective living, and mutual support. It is devastating to recognize that due to government and institutional failures, it takes 7 million people's lives to ignite the reevaluation of our approach to life.

So, the question becomes, what needs to happen on an individual level to practice for a connected society?

In his book *Tools for Conviviality*, Illich defines a convivial society as “autonomous and creative intercourse among persons, and the intercourse of persons with their environment... and conviviality to be individual freedom realized in personal interdependence and, as such, an intrinsic ethical value” (18). There are two key takeaways from this quote: 1) the importance of interconnectedness through exchange and 2) the freedom based on interdependence between people and the environment. In the subsequent chapters, this definition provided a clear starting point and design criteria for systems that facilitate interconnectedness.

When a branch snaps, relinking seems impossible without external tools or adhesives. Similarly, when a bridge falls, restoring it to its former integrity demands considerable effort and labor. It is essential to recognize two facts from the outset: dismantling the barriers of alienation is a challenging endeavor and never a one-person task. It may seem discouraging in the very beginning, but if seen from another perspective, the process is, in fact, also a part of the result. We can fully commit to the process only when we thoroughly recognize the challenges in the very beginning. Ultimately, alienation is a choice, not an inevitability. We are, in essence, journeying back to our roots, reclaiming our inherent connectedness.

To foster connectivity, one needs to be clear about who is being connected and what medium creates or strengthens the bond between them. Organizers and facilitators around the world have been practicing and finding means to answer the above questions across all disciplines, whether it's solidarity economy practices or mutual support networks. The point is that there are countless ways to answer the question of who and how things can be connected, and it largely depends on personal experience of the organizers. However, one common theme in all these practices is the underscoring systems of collaborative exchange of goods and services, whether tangible or abstract. We can then conclude that fostering connectivity essentially studies mutual support exchange systems, underscoring that our world is constructed on extensive exchange networks. From microscopic interactions of fungi to expansive digital webs, evolution across all levels is driven by the continual exchange of nutrients, support, knowledge, and experience. Merriam-Webster dictionary defines exchange as "the act of giving or taking one thing in return for another." The important point to notice here is that exchange is always a reciprocating act. The giver is the receiver, and the receiver is also the giver. The presence of dual identity for the subjects of connection creates a sense of intimacy and mutual agreement that sparks the connection between multiple nodes and allows room for symbiosis growth.

“We are now in transition from an object-oriented to a system-oriented culture. Here change emanates, not from things, but from the way things are done” (Burnham, System Esthetics).

Exchange networks, or the foundational systems preceding any form of exchange, necessitate a robust infrastructure. Such an infrastructure acts as a reliable framework critical to the success of any exchange. It's important to understand that the essence of connectivity lies not in the material entities being traded but in the "relations between people and between people and components of their environment" (Brunham, 31). Although Burnham's discussion primarily pertains to formalist art within an advanced technological culture, this notion can be extrapolated to emphasize the significance of systemic interactions over mere physical objects in the realm of social goods and services exchange. This perspective shifts the focus from the material subject of exchange to the intricate web of relationships and systems, underscoring the

importance of the network's structure and reliability in enabling successful transactions. This is not to say that the nature of what's being exchanged is inconsequential when designing a social exchange system; instead, a well-constructed system demonstrates its strength by accommodating a variety of goods and services within its framework.

Network systems can generally be categorized into centralized, decentralized, and distributed structures in both social and digital context (Baran, 3):

Centralized system: structured around a single point of control, where all decisions and processes are managed from a central location or authority, streamlining operations and decision-making across the entire network. Examples include monopolies, centralized government, dictatorship, and command economies.

Decentralized system: operates with multiple points of control spread across the network, allowing for distributed decision-making and operations. Examples include the gig economy and major corporations.

Distributed system: consists of multiple independent components located across different physical locations that communicate and coordinate their actions by passing messages to one another, working together to perform tasks as if they were a single coherent entity.

Given the shortcomings and vulnerability of centralized networks and the challenges posed by the privatization of decentralized networks, there's a pressing need for support systems built from the ground up. Hence, adopting the distributed network system where all "nodes" have equal access to and contribution to resources, in which the resources can also flow according to the level of needs, becomes favorable.

What needs to happen to build a distributed (peer-to-peer) social network?

Distributed networks, invented by Paul Baran around the 1970s, were used to create a flatter telecommunication method that allows participants equal access to each other and can withstand outages or attacks on individual nodes without collapsing the entire network (Baran, 1). Beyond their technical applications, these networks have been instrumental in the real world, particularly for social and movement organizers, which can be traced back to ancient times. They have leveraged the principles of distributed networks to build mutual support systems that enhance connectivity and collaboration. Several examples are to be described.

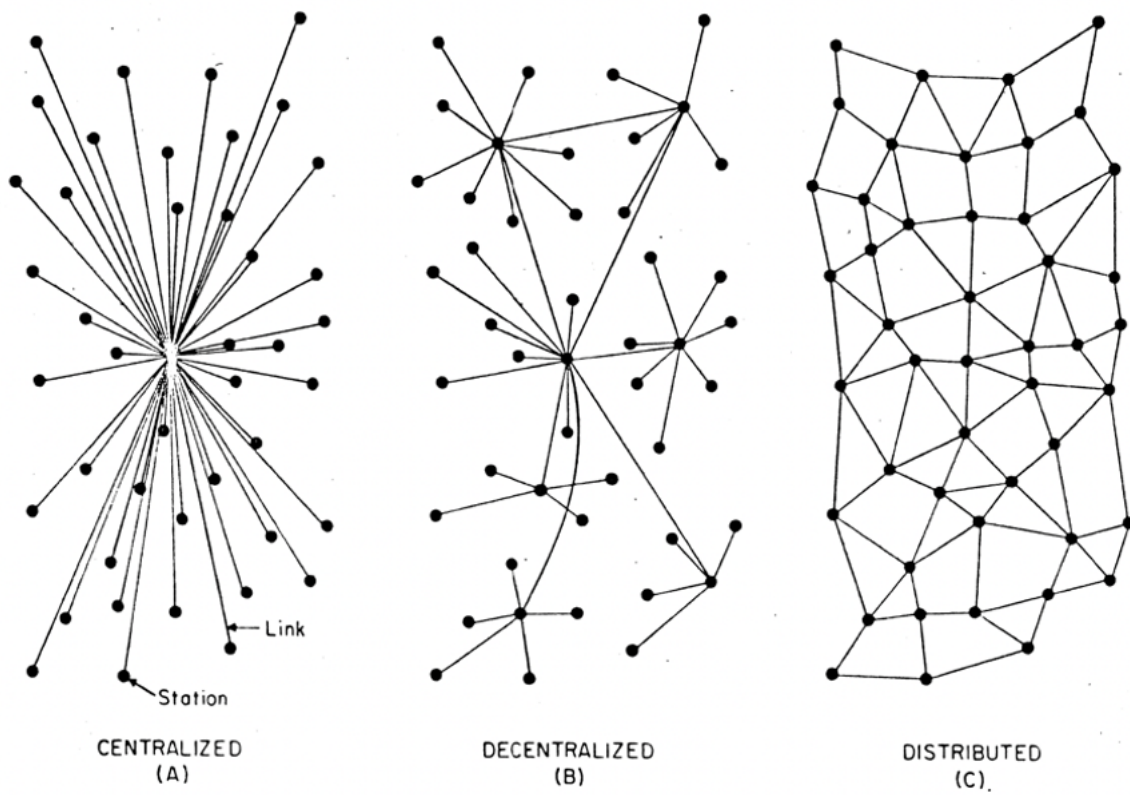
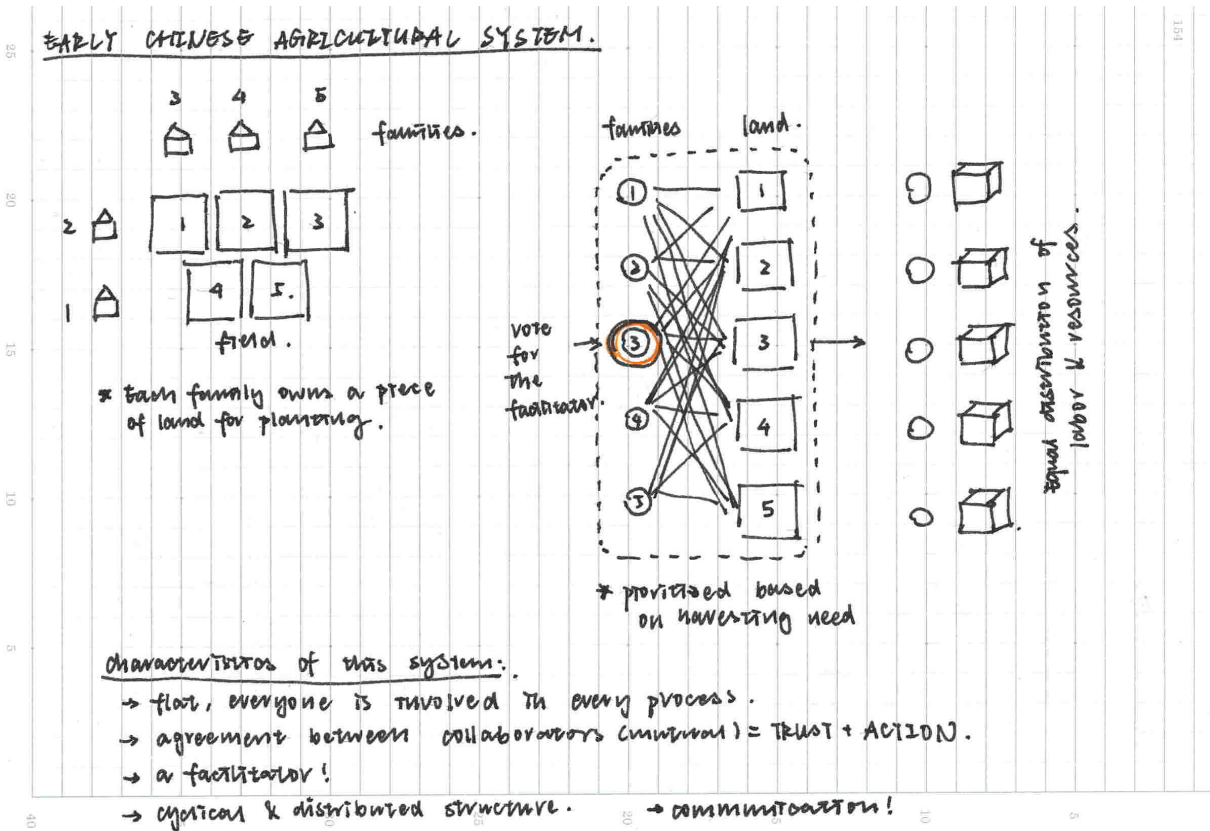


fig 3. network system diagram by Paul Baran

chinese agricultural systems

Early Chinese agricultural practices in rural areas were deeply rooted in a distributed mutual support system, exemplified by the traditional concept of fen shui, or shared water management, which dates to ancient times. Communities worked together to construct and maintain irrigation systems supporting multiple families and villages, ensuring equitable crop distribution. This cooperative approach extended beyond water to include sharing labor, tools, and knowledge about farming techniques and crop rotation, fostering communal resilience against harsh weather conditions and potential food shortages. “Busy Work Association” [忙活会] was one of the earliest organizations of distributed mutual support networks from Shaanxi Province. It is a voluntary production organization among farmers, founded on mutual trust and not focused on equal labor input, regardless of gender, work type, or village affiliation (“互助组织 Mutual Aid Organization”).

Numerous organizations like the “Busy Work Association” exist in remote rural areas, where people on the grassroots level get to manage and organize efforts collectively. They operate horizontally, where 5-10 families would come together during busy agricultural periods like summer and fall to discuss and plan the year’s farming activities, adjusting tasks based on urgency and need, such as prioritizing wheat harvests or rice planting in specific family-owned fields. The collectively harvested grains and food are then distributed back to the landowners, whom all participated in the shared labor process. Members also elect a facilitator in a group to address conflict, settle oral agreements, and ensure a fair distribution of work among individuals. During the less busy winter months, pod members support each other in other construction projects, land development, ditch digging, weir repairs, or engaging in transportation work, facilitating communal support and labor sharing based on current needs (“互助组织 Mutual Aid Organization”).



Several important characteristics of the system are worth noting here: *a collective vision (harvesting in this case), the flat organizational structure, the distinction between land ownership and communal stewardship of labor, the absence of a centralized authority, and the presence of a facilitator role emphasizing communication and consensus, all rooted in a cyclical, distributed network.* In addition, the principle of mutual help was deeply integrated into the early Chinese agricultural ethos long before the advent of power structures and capitalism, becoming a staple of daily life rather than a mechanism activated solely during a crisis. This proactive approach to communal support allows individuals to address and mitigate potential crises preemptively, reinforcing agricultural productivity and social cohesion.

fig 4. chinese agricultural system diagram

time banks

The Time Bank system is another model of distributed mutual support that revolves around the exchange of time and services instead of monetary transactions. In this system, individuals contribute their time by offering services based on their skills and expertise, such as tutoring, gardening, or carpentry. In return, they earn time credits for the hours they've contributed, which they can then spend on receiving services from others within the bank ("Building the timeband movement"). Essentially, one hour of service equals one-time credit, irrespective of the nature of the service provided.

In addition, time banks are a highly reproducible tool for community building and mutual support because they operate on a simple yet versatile principle: exchanging time and skills rather than monetary transactions. This model can be easily adapted and implemented in various contexts, from small neighborhoods to large organizations, without requiring significant financial investment. The core requirement is a platform or system for tracking the hours exchanged, which can be as straightforward as a paper logbook or as sophisticated as a custom software application. Communities worldwide have successfully replicated time banks to meet diverse needs, highlighting the system's adaptability and scalability.

The time bank system resembles the early Chinese agricultural system mentioned previously, embodying a cyclical, distributed network structure. ***However, it is uniquely characterized by incorporating an interim evaluation mechanism, credit, to build trust. This enables strangers to offer mutual help effectively, significantly widening the network's scope of connections horizontally.*** Furthermore, the time bank system introduces personal flexibility, granting individuals the autonomy to determine their contribution levels without the pressures or obligations sometimes found in group settings.

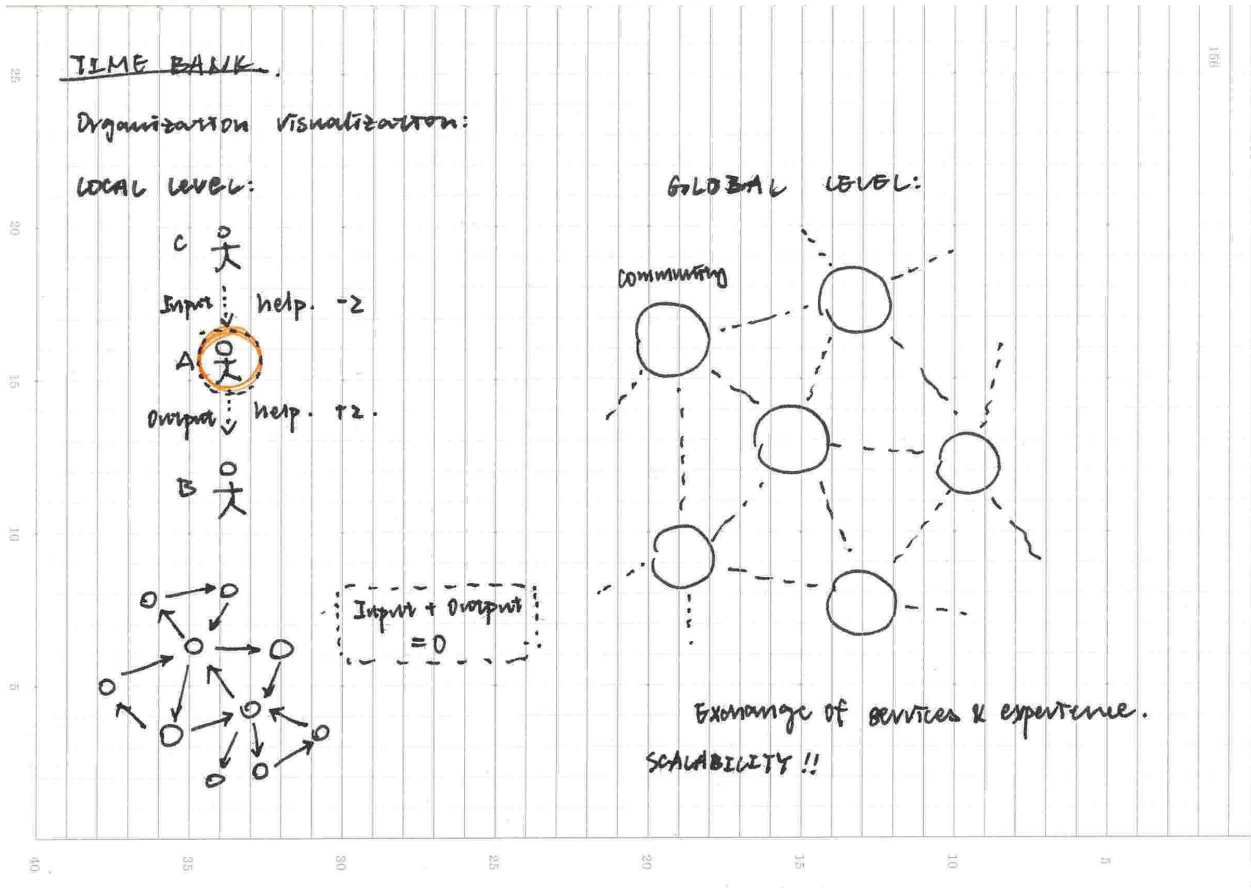
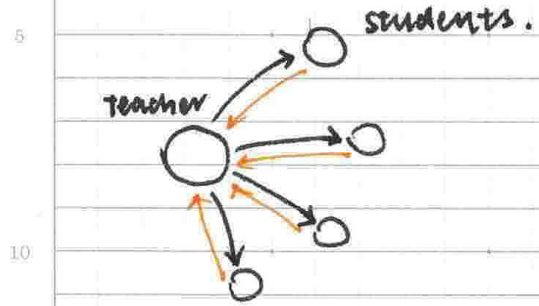


fig 5. timebanks system diagram

TRADE SCHOOL.



Organizational structure.

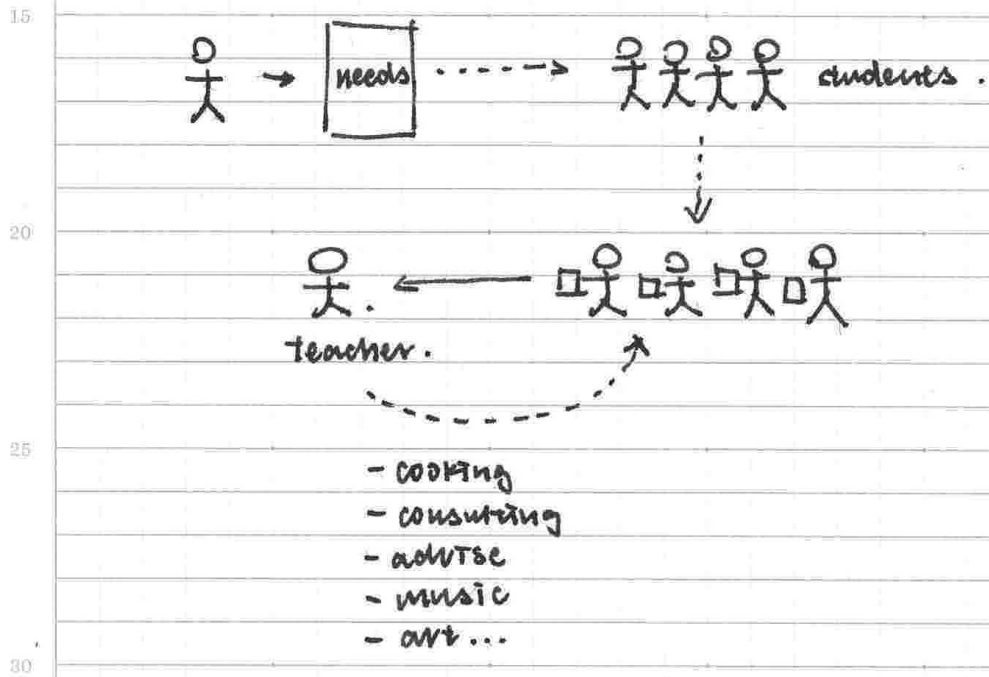


fig 6. trade school system diagram

trade schools

Trade School, initiated by Caroline Woolard and her collaborators, is a distributed educational network that reimagines the traditional concept of learning through a barter system. Instead of conventional monetary transactions, Trade School allows individuals to teach classes in exchange for goods and services offered by students (Woolard et al.). This reciprocal educational model fosters a community-based learning environment where knowledge is freely exchanged and valued beyond financial metrics. By leveraging its participants' diverse skills and experiences, Trade School democratizes education and cultivates a space for mutual respect, collaboration, and the sharing of resources.

Trade schools' appeal extends more than the mutual exchange of knowledge and goods between teachers and students, offering scalability and simultaneous satisfaction. Its most captivating aspect lies in its capacity to unite individuals with shared interests. *The structure naturally draws together communities bound by a shared curiosity or passion, depending on available classes. This convergence fosters not only the sharing of skills but also the formation of meaningful connections, paving the way for deeper relationships within these circles of shared interest and collective time.*

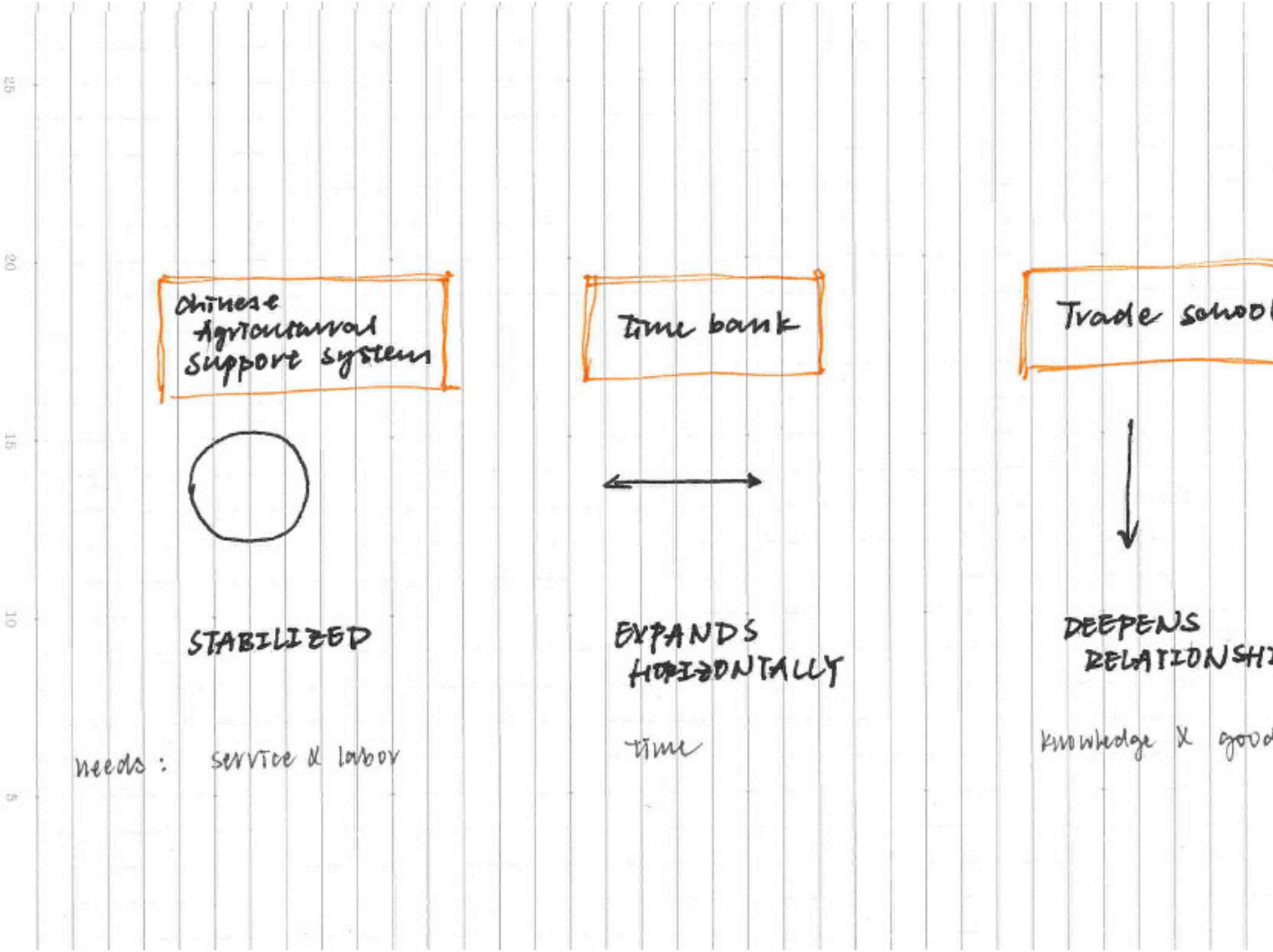
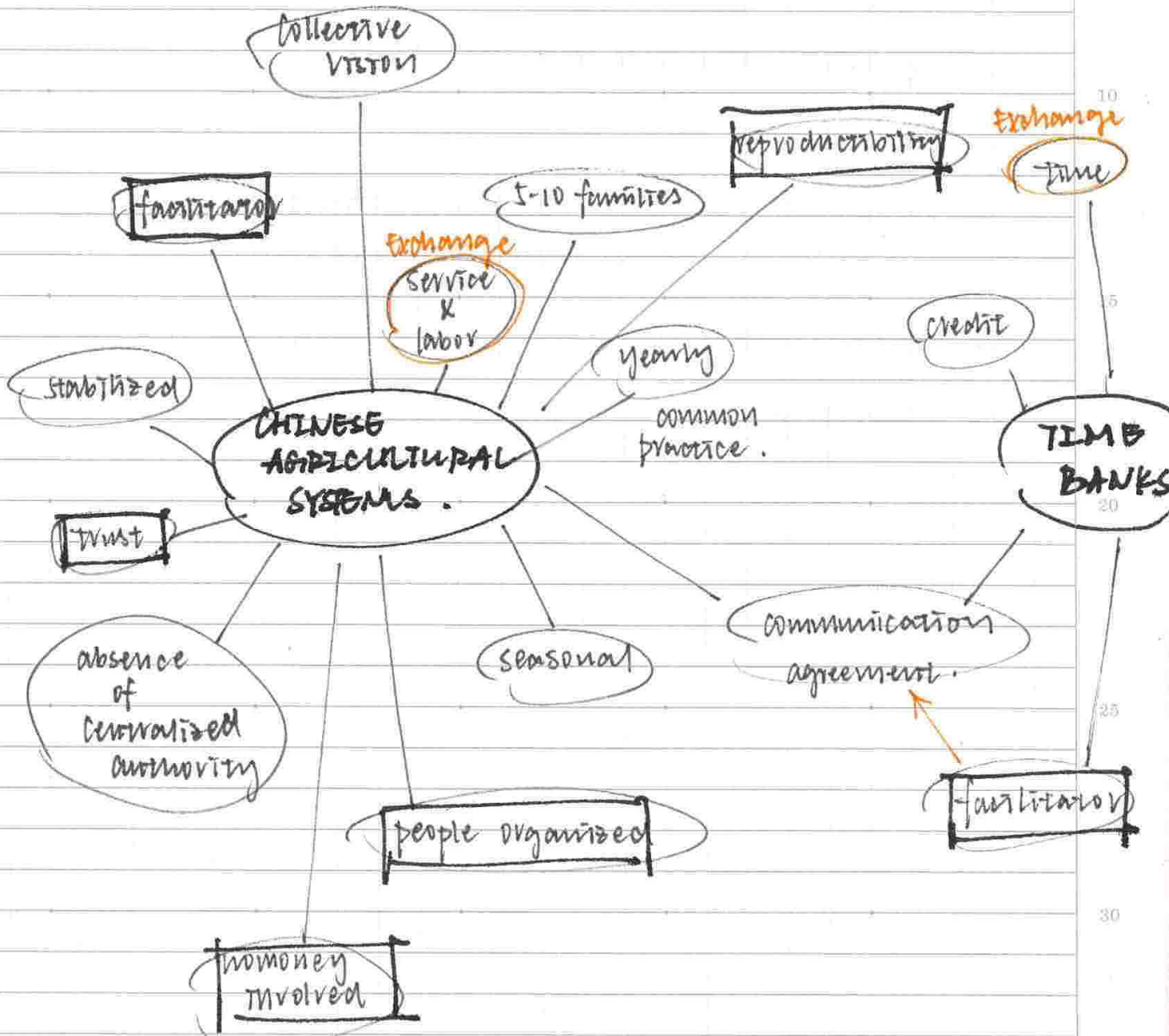


fig 7. precedent system comparison

As depicted in figure 7, the provided examples highlight a range of socially distributed systems that can either stabilize or broaden networks, whether horizontally increasing peer-to-peer connections or vertically, deepening the relationships between participants. This diversity demonstrates these systems' limitless potential to foster connections across various dimensions. The critical question these examples raise is not about the limits of where such systems can take us in terms of networking and connectivity. *Instead, they prompt us to consider the nature of the relationships we aim to cultivate within these networks. Whether seeking to build communities based on mutual aid, collaborative learning environments, or platforms for equitable exchange, the underlying structure of these distributed systems offers a versatile foundation upon which diverse forms of social relationships can be constructed and nurtured.*

CHARACTERISTIC MAP.



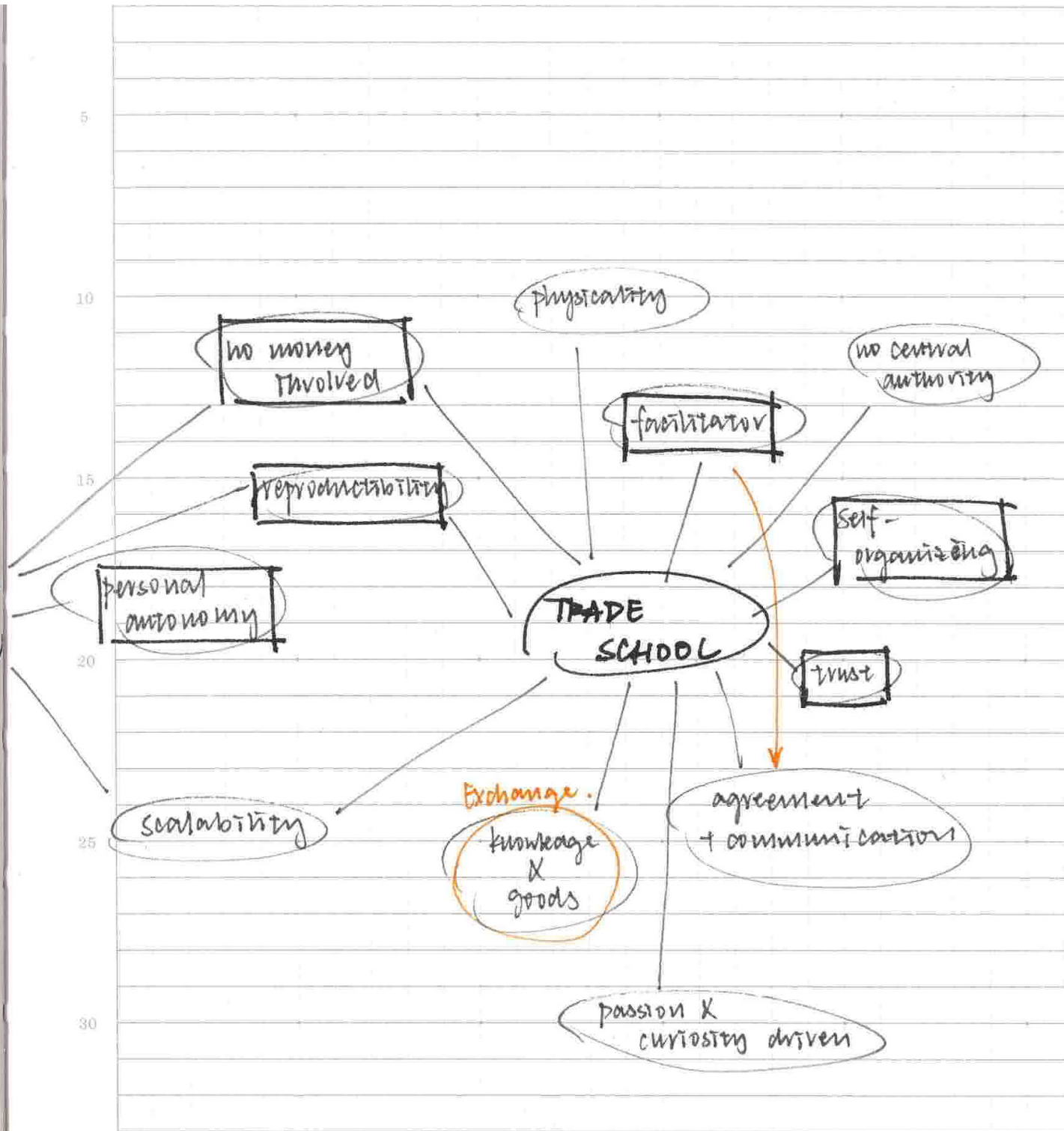


fig 8. precedent system mind-map

To address the question of what needs to happen to establish a socially distributed network, we can distill several key considerations from the commonalities observed in the earlier examples, as shown in figure 8. It is important to acknowledge at this point that these specific examples of service, production, and education-focused organizations represent just a fraction of the diverse practices implemented by organizers around the globe. These cases hint at a vast landscape of possibilities that extends well beyond the confines of this project. The key characteristics of the example networks are outlined and defined below.

cyclical infrastructure

In this context, a cyclical infrastructure means a system designed for a continuous, iterative, circular flow of resources. This system operates on both local and global scales. Locally, it embodies a circular exchange among participants, where each member actively contributes to and benefits from the system's collective prosperity. Globally, it extends to the collective distribution, regeneration, and reuse of goods, services, and knowledge within a unified, self-sustaining loop, in between communities, driven by the foundational exchanges at the local level. A cyclical infrastructure is critical for distributed social networks' sustenance, resilience, and longevity.

the role of a facilitator

Facilitators exist in all social organizations, whether people or computer programs. They act as the backbone of coordination, aligning individual efforts towards collective goals and enhancing communication to maintain a flow of information among members. The facilitators also take on a proactive organizing role to initiate and experiment with new means of practicing connectivity through social exchange and is critical in proliferating existing mutual support systems.

adaptability for subject of exchange

Drawing from Burnham's "System Esthetics," our society is transitioning towards a focus on systems over the specific subjects of exchange. The structure and design of these systems, which facilitate various types of exchanges, such as knowledge, services, and consumer goods, are becoming increasingly crucial. The examples provided illustrate the adaptability of these systems to different exchange subjects, allowing participants to express a broad range of needs.

no money involved

The rationale for excluding money from distributed social networks is to create spaces where community values, fairness, and participation matter more than making money. By removing monetary transactions, these networks encourage genuine social interactions, undistracted by the pursuit of profit, thereby fostering more meaningful connections. This approach helps reduce socio-economic inequalities, creating spaces where financial capability does not dictate participation and access. Moreover, it allows for exploring alternative value systems, recognizing, and leveraging the intrinsic worth of contributions like knowledge, skills, and emotional support, often marginalized in traditional economic model.

reproducibility

Reproducibility is critical in designing a scalable distributed network. Therefore, the underlying principles need to be simple and versatile. The system should allow anyone who wishes to implement a similar system within their community to do so with ease, facilitating expansion from a local to a global scale. Moreover, reproducibility promotes transparency and openness, encouraging broader participation and fostering a culture of collaboration by sharing best practices.

What are the limitations with distributed social networks?

The two significant limitations of creating or enacting a distributed social network are its longevity and efficiency. The limitations with longevity are primarily due to the heavy reliance on active and consistent participation from members, the need for coordination efforts, and vulnerability to external interference. In addition, as the network grows and the diversity of user needs expands, the system must evolve to accommodate these demands, requiring a commitment to constant development and renewal. As mentioned earlier in this chapter, bridging gaps and facilitating interconnectedness is never a simple problem or a one-person task. Recognizing these challenges is the initial step towards enacting change, and practicing small, repeating from experience, and proactively sharing resources on an individual level will sustain the longevity of a distributed social network system.

A further challenge distributed social networks face is the potential compromise in efficiency, particularly in terms of the latency between the expression of needs and their fulfillment. Critics might contend that introducing a standardized currency like money could streamline and expedite these exchanges. This argument holds water in scenarios where a distributed network primarily seeks to enhance operational efficiency. However, the central focus of this study shifts away from sheer efficiency towards fostering deeper kinship and connectivity among individuals to break down the walls of alienation. In this sense, efficiency is not the primary objective. Pursuing it too fervently may, in fact, detract from cultivating meaningful, quality connections.

“The first step towards change is awareness.” -- Nathaniel Branden

This experimental thesis draws upon the lessons and frameworks from pre-existing distributed social networks, highlighting connectivity and exchange’s crucial role in dismantling alienation. Embedding mutual support and connectivity into daily routines should not merely be a contingency for crises but a fundamental component of our reality. The essence of this project is to disseminate this concept through public engagement installation art within the MIT community. The following chapters detail three social experiments designed to enhance connectivity and mutual support, with detailed documentation and writings from a facilitator’s perspective on the complete process for anyone who hopes to start small on a grassroots level.



fig 9. building process

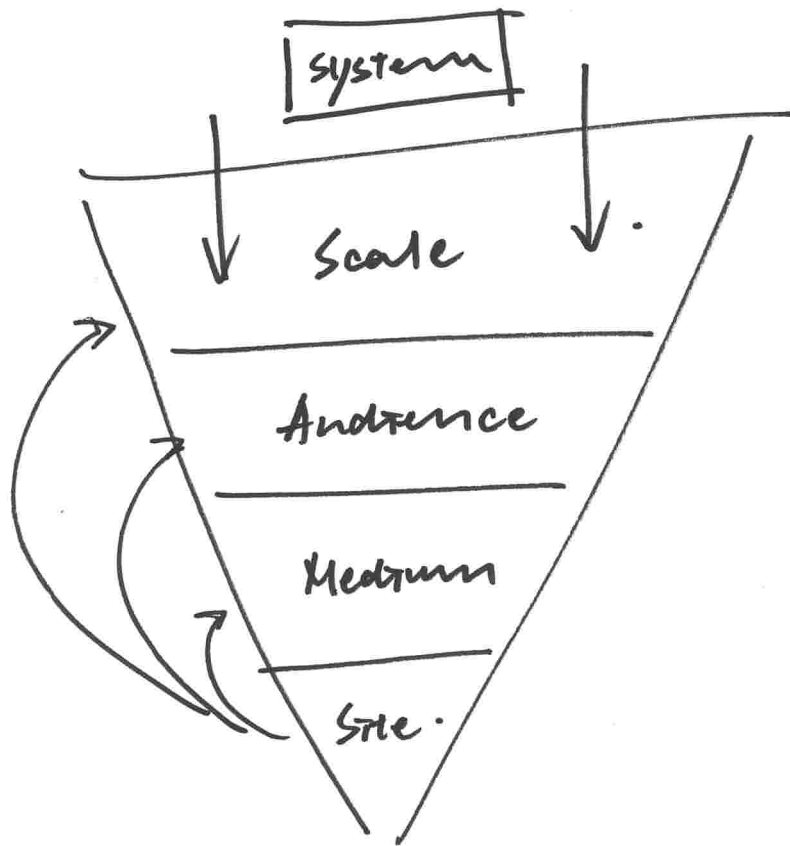


fig 10. planning pyramid

ii. planning

scale, audience, medium, and site

“Society is held together by our need; we bind it together with legend, myth, coercion, fearing that without it we will be hurled into that void, within which, like the earth before the word was spoken, the foundations of society are hidden.” -- James Baldwin

Following the analysis of the three case studies in Chapter One, this thesis project sets out to orchestrate a series of experiments primarily driven by the needs of community members. The drive is twofold: firstly, to synthesize the principles of stabilization, horizontality, and verticality into a cohesive system that fosters mutual support and trust among participants, and secondly, to catalyze meaningful dialogue and connections within a specific community. These experiments are designed as inclusive platforms, ensuring they are within reach of the community members they seek to serve. In addition, central to these experiments is the notion of collaboration, meaning that it is an ongoing “dialogue” between the members of the community (the participants) and myself (the facilitator) and that only with the participatory engagement and feedback from the community that I am serving could be considered the completion of the experiments. Below outlines several key considerations during the system design process.

In this study, *the system scale* is defined as the geographic and demographic scope of the community in which the experiments are conducted. For example, consider the distinct operational dynamics of a local trade school compared to those of a global online school. They differ for two reasons: the ability to tailor responses to the unique individuals and regional needs, and the system infrastructure's adaptability. An exchange infrastructure on a local level, such as a trade school, can have flexible and customized requests depending on the teacher's and student's needs, facilitating easier access, and fostering personal connections among participants. Conversely, despite its extensive reach, a national or global exchange infrastructure such as an online school or online mutual help platform faces the challenges of accommodating a diverse and specific array of needs. This is not to say it's right or wrong to go with either the local or global route in building an exchange infrastructure; the important point to note here as self-organized experiments is to clearly understand the community needs, available resources, and operational capacity. After all, for a global-scale exchange infrastructure to be established, people need to adapt to the collective living style from local-level experiments. The experiments in this study will take on the first approach, starting small on a local level, within the Cambridge, MA, and MIT campus communities as the target experiment grounds.

Once the serving community is narrowed down, it is essential to delve deeper and understand *the people* being served and connected through these experiments. This process not only helps the facilitator to anticipate some potential needs but also provides insights into the system's design process. Data from the US Census Bureau indicates that the predominant age group in Cambridge ranges from 18 to 65, mainly comprising college students and mobile professionals. This demographic trend suggests a greater demand for material goods over services, influenced by the population's younger average age and occupational nature. Furthermore, according to demographic data from the City of Cambridge, Spanish and Chinese are the most commonly spoken languages after English ("Demographics and Statistics FAQ"). A project broadens its reach by translating materials and providing support in the community's most spoken languages. It ensures that non-English speakers are not disenfranchised, promoting equity, and fostering a more inclusive environment. Demographic insights can also reveal economic, social, and cultural dynamics that influence the design and delivery of services. Knowledge about mobility patterns, household composition, and financial status allows for more targeted interventions. For instance, in a community with high mobility like Cambridge, services need to be more adaptable and transient-friendly, possibly focusing on providing resources that support the frequent transitions associated with student and professional life.

A system medium is critical to achieving a social network system's desired outcome. Therefore, the selection of the medium should carefully consider understanding the system's objective. System mediums can generally be categorized into tangible and intangible mediums. Tangible mediums are flyers, posters, and even libraries, where resources are displayed and distributed in physical locations. In contrast, intangible mediums encompass digital platforms and channels, such as Facebook Marketplace, Reddit, and Twitter, which exist primarily online. While intangible (digital) medium offers widespread accessibility and efficiency, it may not be the best choice when the purpose is to foster exchange and facilitate mutual support and social cohesion on a local level. The pervasive digital divide underscores a significant challenge, excluding individuals without consistent internet access or digital literacy. This division particularly affects older adults, those in economically disadvantaged regions and households, and individuals in rural areas, namely the most vulnerable demographics in our society, thus undermining inclusivity. Additionally, the digital landscape is saturated with information, leading to an overload that can dilute the impact of specific messages and initiatives, making them less likely to capture attention and spur meaningful action. Most importantly, the digital environment's curated nature often lacks the serendipity found in physical interactions, which are crucial in sparking unexpected connections and fostering closeness between participants as the focus of this study.

A site is a physical or digital structure that holds the exchange, whether material or service. It can be either a physical or digital locale, and its selection is closely aligned with the nature of the system. For this study, which focuses on tangible systems, the choice is narrowed down to physical sites. The selection of an appropriate site entails consideration of several key factors: visibility, accessibility, and context. Visibility is crucial as it ensures that potential participants easily notice and recognize the system. It can be achieved by choosing a site with high circulation density, such as hallways, cafes, and communal gathering areas, namely the public realm and liminal spaces. Accessibility in this context is defined as both the handiness of receiving the information by the participants and the accessibility to the site where the organizer has the agency to conduct the experiments. Conducting such social experiments requires much coordination and collaboration; therefore, seeking a supportive space, such as choosing organizations that align with the experiment value, to nest the exchange systems is beneficial to the participation and contribution. Lastly, the context ties closely to visibility and accessibility. The placement of an installation near a children's park, for example, appeals to a different demographic than one next to a gas station. Considering the site's surroundings can significantly affect the reach and connection types associated with the experiments. The subsequent chapter will provide detailed descriptions of the site selection for each of the three experiments.

Building a mutual support network is an iterative process. It relies heavily on learning from what previous practitioners have rehearsed and thinking about how to iterate and adapt the existing systems to a different community base. Complete innovation and renewal, in this case, might not be in favor of building connections and closeness between individuals. Therefore, *sharing and documentation* of the process hold vital weights for self-organized system experiments and provide value for other organizers in creating an extensive knowledge network of exchange systems. In addition, the system should be simple and versatile, enabling easy engagement by participants and straightforward replication by other grassroots practitioners. This approach enhances the system's adaptability across various contexts and promotes its proliferation across different communities. This thesis study aims to document this iterative process of a self-organized mutual support network and share the learnings and findings.

What constitutes a successful social exchange network that fosters connections and mutual support?

The primary goal of this study is to alleviate alienation by providing opportunities for fostering closeness and support within designated communities. While it is hard to quantify the success due to limitations of tracking the tangible distribution of such exchange systems, several key observations help the organizer evaluate the success of the experiments. The first and foremost observation is the effectiveness in completing the transactions. This evaluation can be quantified through the number of transactions completed and the audience engagement rate. Additionally, gathering insights on participant feedback and assessing the investment of time required by the facilitator is crucial as they provide insights on how to iterate the system design in the future. Collecting this data involves direct conversations with participants and observing their interactions from a distance to gauge genuine engagement and response. The findings and detailed analyses of each experiment are elaborated in the subsequent chapter.

iii. making
three social experiments



ENTER

THE EXCHANGE TUNNEL

This installation is for you to place material needs or send gifts to strangers. It is a community tool for practicing solidarity, economy and mutual support. Please read how to engage through the steps below:

- 1** Write your needs on the white tag attached to the pockets. If you have more than one need, use more than one pocket.
Examples: an empty engineering notebook, a mouse, keyboard, colored marker set.
If the object you request has a high value or is too big to be placed inside the pocket, please write you Kert or contact info on the tag and coordinate pickup from them.
- 2** If you wish to offer gifts for people to take, place them in pockets and write "gift for take" or a message on the white tag.
- 3** Come back sometime in the next week or so to see if others in the community have fulfilled your requests. Please take the object from the pocket, post it to the tag, and stick it onto the exit curtain. It helps to visualize the completed exchange!
If you are taking a gift offered by others, please do the same: post it to the gift tag, and place it on the exit curtain.

Please do not exchange food/drink
Please do not lean or push hard against the structure

Extra white tags
Sharpie
If you wish to learn more about this project please feel free to take a pamphlet below!

fig 11. the exchange tunnel front view

Experiment #1 the barter poster

Scale: MIT Architecture Department

Audience: Undergraduate and graduate students, faculties

Medium: Paper

Site: Architecture Studio

Time invested in organizing: 10hrs

The concept for a collective barter experiment formed during my attendance at the NOMA conference in Portland, Oregon, in October 2023. While listening to the talks and participating in the group knowledge exchange process, I was inspired to explore how by visualizing the participatory engagement could enhance collaboration among community members. The concept was to develop a tangible, interactive tool that would allow community members to openly place and fulfill requests, thereby promoting active peer participation and making the exchange process transparent.

Motivated to apply this model within a reachable community, I devised an experiment tailored to the MIT architecture department. This setup was designed to facilitate the redistribution of material goods and visually map the network of exchanges. A poster in the studio served as the central node for this exchange, where participants could post and view requests using Post-it notes. Example requests include Halloween costumes, beanies, coffee, ceramic glazes, and pen holders, leveraging a broadcasting strategy to enhance reach and engagement. This experiment demonstrated the potential of collective bartering as a dynamic and interactive model of resource sharing.

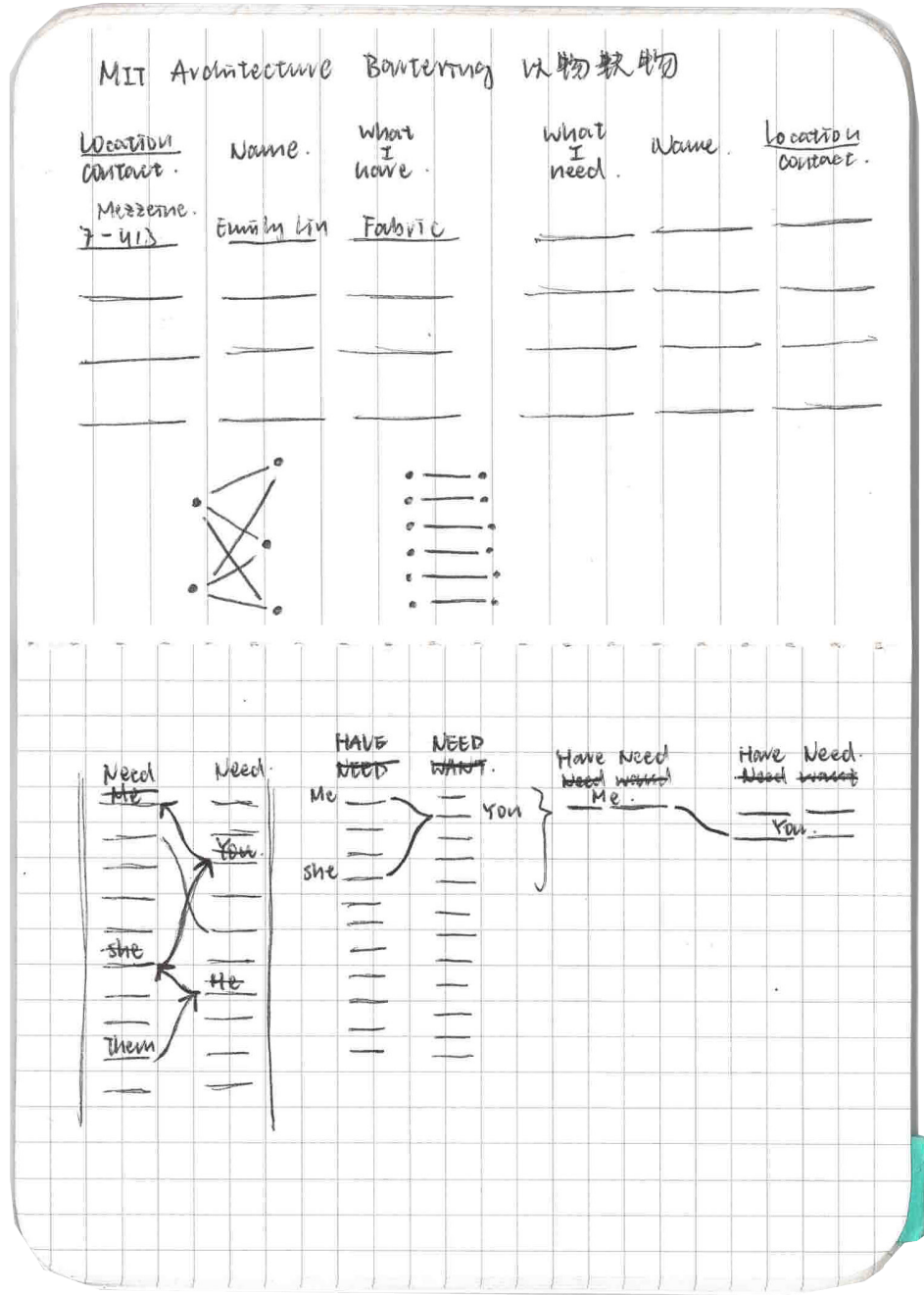


fig 12. barter poster preliminary sketch

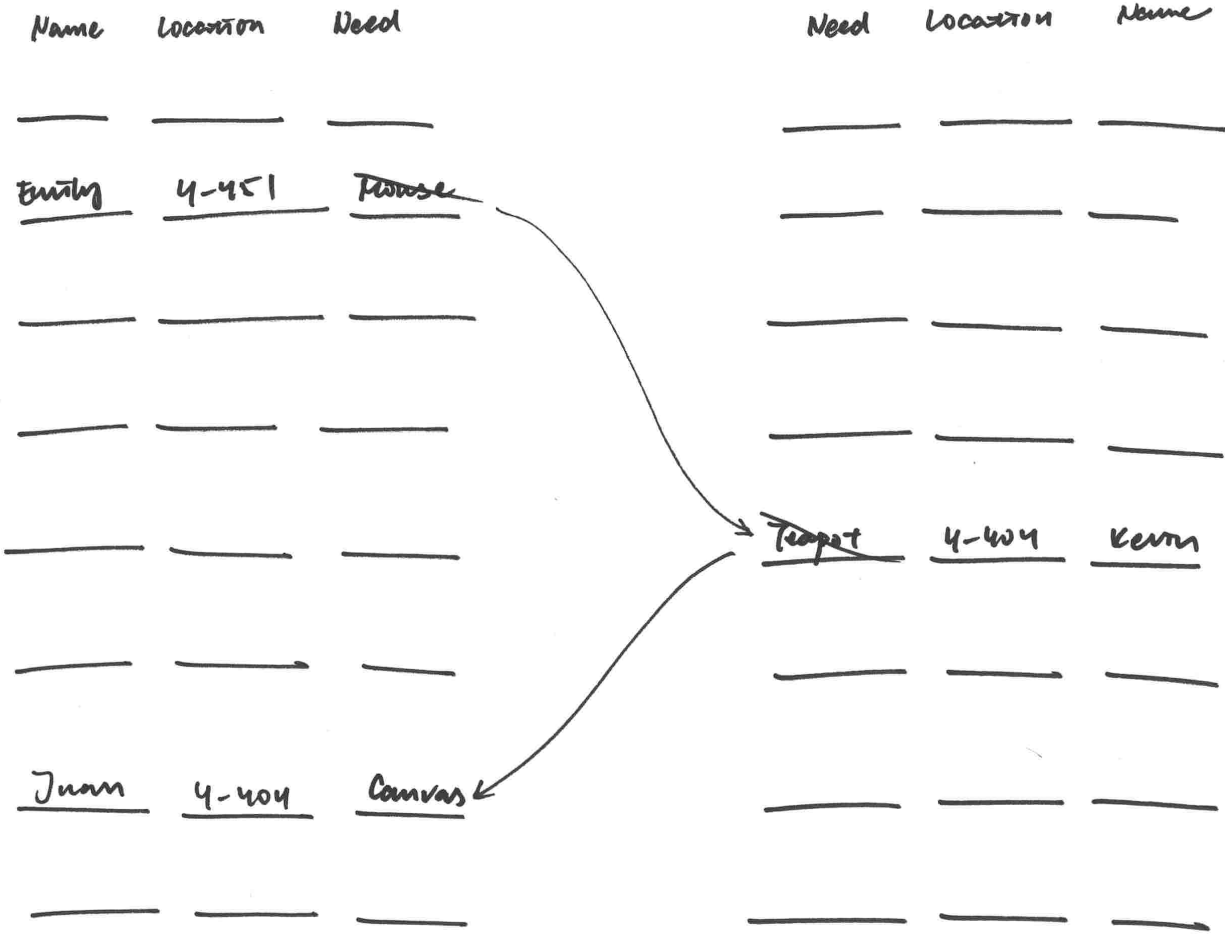


fig 13. barter poster template

Instruction text:

what is a barter system?

A barter system is the direct exchange of non-monetary goods and services between two parties. A good barter system relies on trust, mutual consensus, and forms of collaboration. It is a solidarity economy system that prioritizes social and communal gains instead of purely financial profitability (“Barter”).

what is a collective barter system?

A collective barter system operates similarly to a traditional barter system, where mediums of exchange, such as money, are not involved in the transfer of goods and services process. However, instead of only two participators, all community members can partake in the exchange process, so the need of one individual can be satisfied by another community member whose need does not necessarily ought to be fulfilled by the same person.

A collective barter system has its benefits and limitations. For example, the exchange reinforces the trust and support within the community that it’s taking place and also creates opportunities to make friends. However, due to the unpredictability of what is available in the community and the willingness of participants to exchange, the system is unable to meet urgent needs or promise the fulfillment of needs.

This experiment provides an additional opportunity for the members of the architecture community to trade or lend goods or services in exchange for things they need. It is a framework that relies entirely on participation and trust! So please feel free to participate/contribute according to your capacity and leave comments on potential system improvements on the sticky notes provided below.

how to participate?

Leave your name, location [studio space], and need [as descriptive as possible] on either side of the table below [please feel free to write as many as you need]. If you see someone else’s need that you can fulfill, please get in touch with the other participant and make the offer. Once the process is complete, cross out their need, leave your request with your name and location on a new line, and draw an arrow to the need you fulfilled. Ideally, each request will have an arrow pointing in and pointing out, indicating that the participator has successfully received and offered goods/services to the community! An example is pre-sketched below for clarification.

engagement

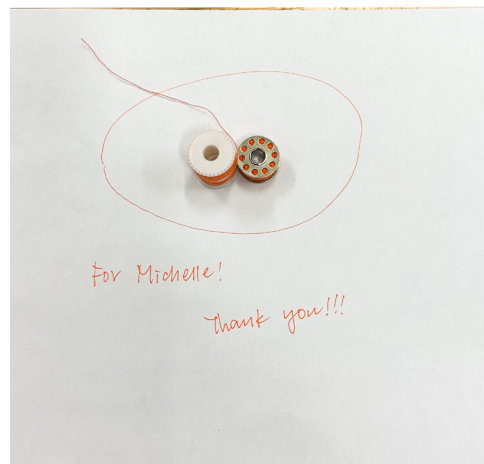
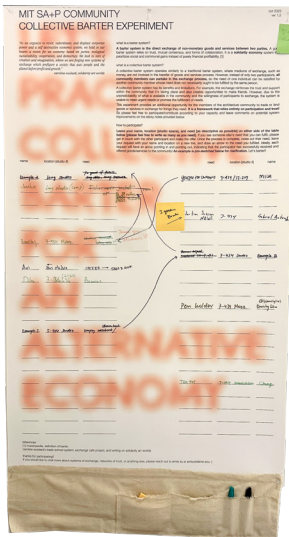
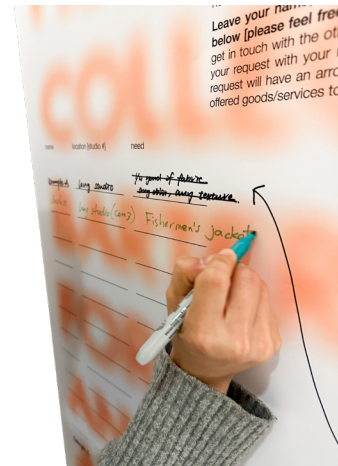


fig 14. barter poster engagement



7-434

ARCHITECTURE STUDIO

MIT SA+P COMMUNITY
COLLECTIVE BARTER EXPERIMENT

PRACTICE COLLECTIVE BARTER FOR AN ALTERNATIVE ECONOMY

MIT SA+P COMMUNITY COLLECTIVE BARTER EXPERIMENT

fig 15. barter poster at MIT architecture studio

Experiment #2 “NEED HELP?” flyers

Scale: Greater Cambridge Area

Audience: Residents in Cambridge

Medium: Recycled letter-size paper

Site: Supermarkets, Cafes, Campus...

Time invested in organizing: 25hrs

Inspired by Caroline Woolard’s project OurGoods, this experiment adopts a similar format using tear-off posters designed to handle requests and offerings one participant at a time. These posters are distributed throughout the greater Cambridge area in community cafes and supermarket bulletin boards. Participants are invited to tear off however many forms they want, fill in their requests and contact details, and engage directly with the community exchange.

The materials for this experiment are recycled paper from MIT shops and bound to easily accessible cardboard. Instructions are provided in a Dropbox folder to facilitate ease of use and replication, accessible via a QR code on each poster. This setup ensures the process is straightforward and replicable, encouraging widespread participation in the community exchange network.

My name is: _____

I am a/an: _____

♥ WHAT I HAVE ♥
☆ WHAT I NEED ☆

Take my contact below if you are interested~

--	--	--	--	--	--	--	--

Scan to learn more about this!

fig 16. need help poster template

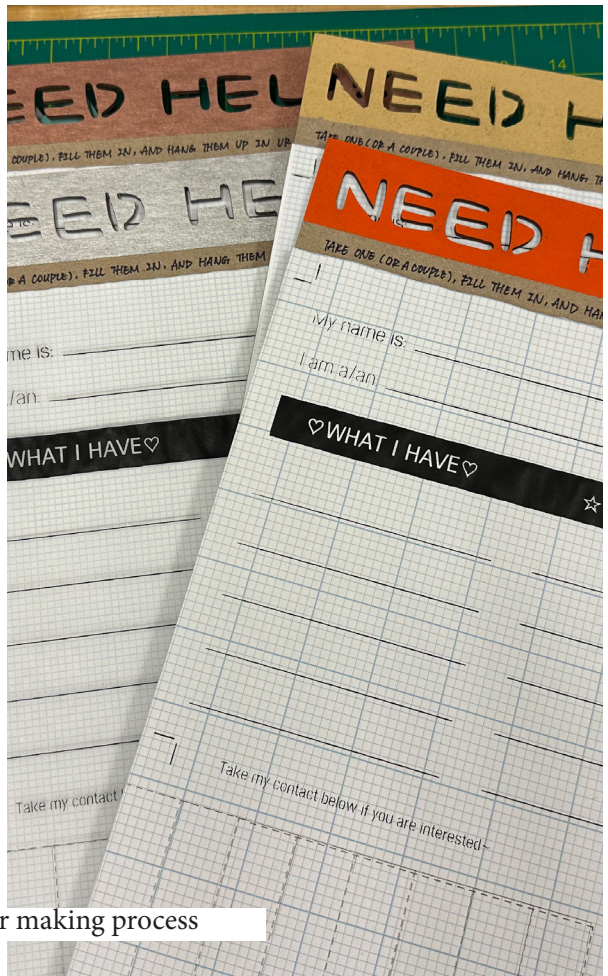
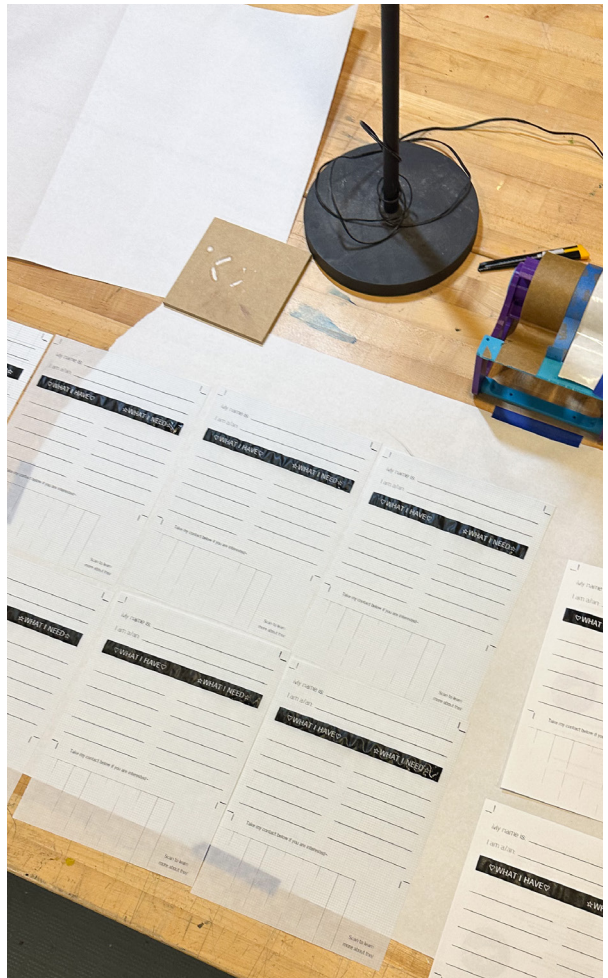
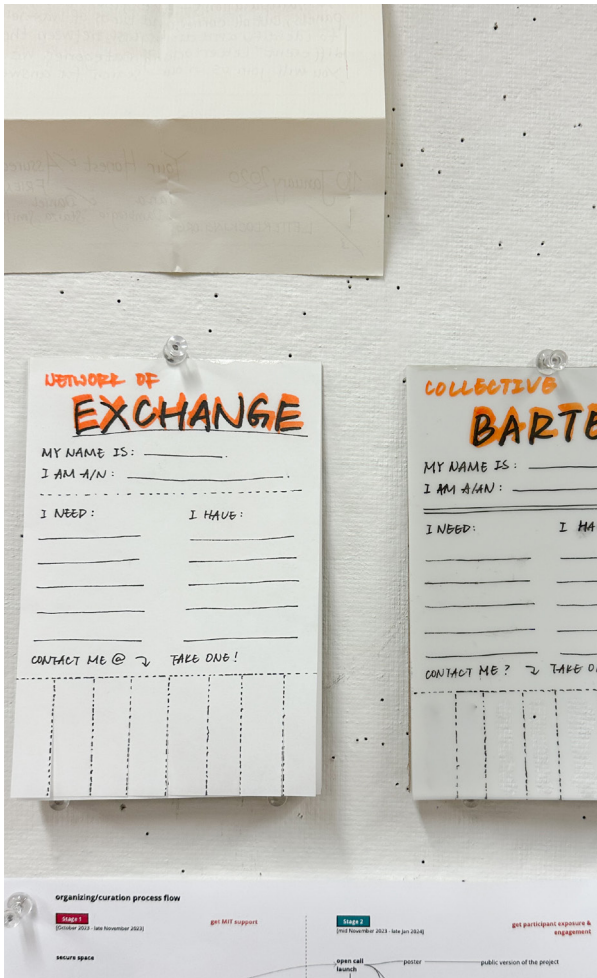


fig 17. need help flyer making process

Message to the community:

a text document linked to the QR code attached to the flyers

Hello There!

Thank you for your curiosity and for scanning the QR code.

The flyers you see are tear-off posters for you to take home and fill in if you need help. Inspired by the Artist and Organizer Caroline Woolard's barter system work, OurGoods, this project takes on a similar form with physical flyers to engage community members to contribute and help each other. I hope through this little collective experiment with you, we can not only raise awareness of the solidarity economy but also connect some dots within the networks of the community.

How to use:

Please feel free to take one or as many as you need; fill them in with what you need, what you can offer, and your contact information (phone #, email, or social media handle). Put them up on a bulletin board in your community for others to tear off the contact information, and connections will happen from there!

Some example needs include: need help with walking the dog every week, grocery delivery, moving help, space for performance or storage, objects...

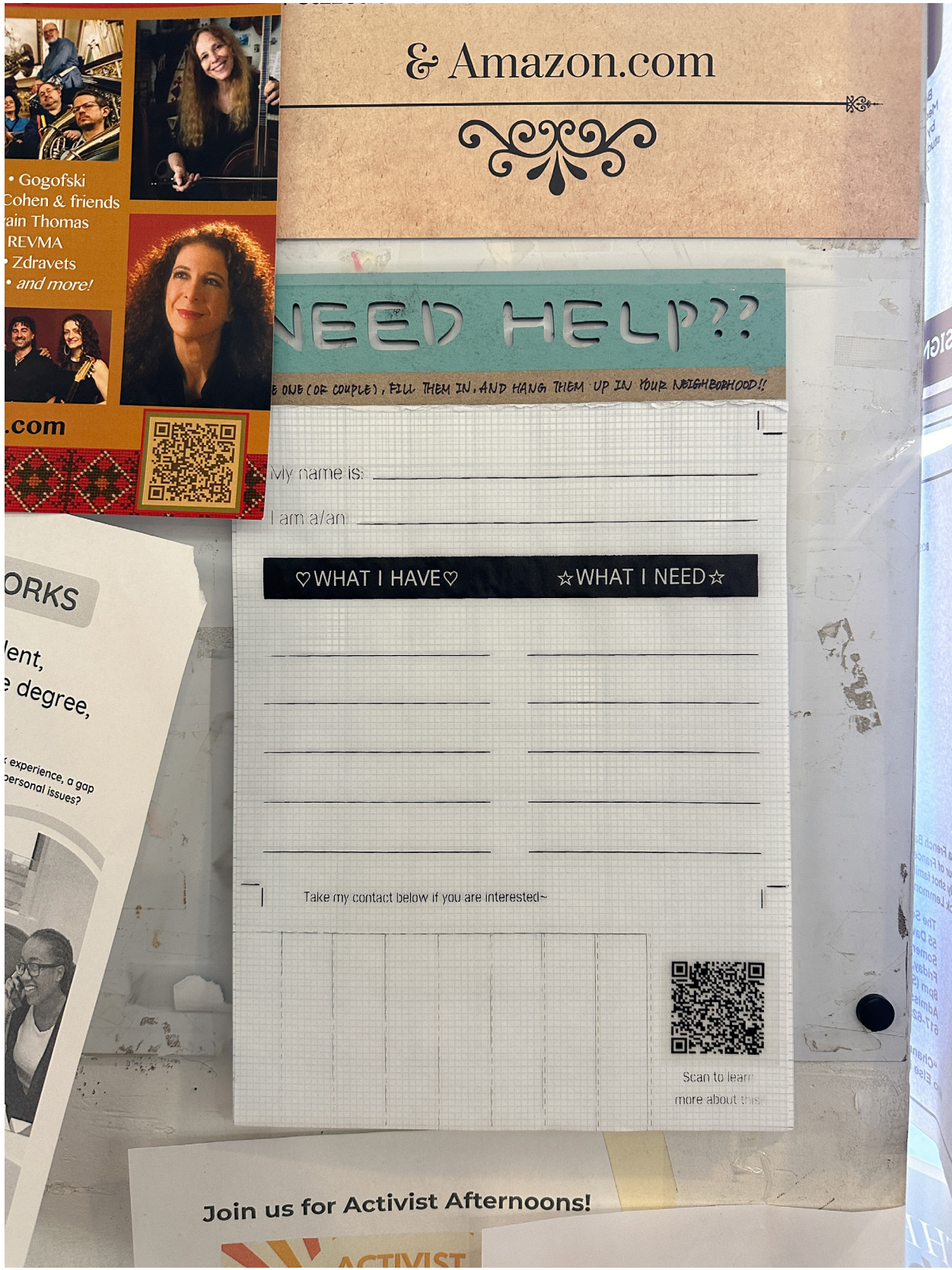
Some example offerings include: objects, services, knowledge, \$\$, food...

An empty form can be accessed in this Dropbox link if you want to print more or replicate the same system in your community!!

Thanks for your interest, and happy barter!



fig 18. need help poster at community cafe



& Amazon.com



- Gogofski
- Cohen & friends
- Brian Thomas
- REVMA
- Zdravets
- and more!



NEED HELP??

IF YOU OR SOMEONE YOU KNOW IS IN NEED OF HELP, FILL THEM IN. AND HANG THEM UP IN YOUR NEIGHBORHOOD!!

My name is: _____

I am a/an: _____

♥ WHAT I HAVE ♥ ☆ WHAT I NEED ☆

Take my contact below if you are interested~



Scan to learn more about this...

Join us for Activist Afternoons!



fig 19. need help poster at community supermarket



fig 20. the exchange tunnel at MIT hayden library

Scale: MIT

Audience: Members of the MIT community

Medium: Occupiable installation with metal, wood, and plastic

Site: MIT Hayden Library

Time invested in organizing and making: 200+ hrs

The exchange tunnels is a tangible platform for members of the MIT community to barter goods and exchange gifts. It is a collective tool for people to engage and rethink solidarity economy and mutual support within our community through acts of giving and receiving. Hoping to recreate the valuable memories I have experienced in this community, the exchange tunnel was designed to recreate some heartwarming small yet profound gestures of care and inspiration I've received from others.

The exchange tunnel's playful design utilizes formal intricacy to capture attention and inspire participation. Moving beyond the structure of a conventional cabinet, it features designated pockets that serve as "hosts" for material and service requests. The exchange process is made visible using translucent materials, and each completed exchange is archived onto the installation itself, adding a layer of transparency and interaction to the experience. The exchange tunnel now resides at MIT Hayden Library's porch temporarily, echoing the library's innate exchange nature, celebrating the community's spirit of generosity and connection.



fig 21. the exchange tunnel exterior view

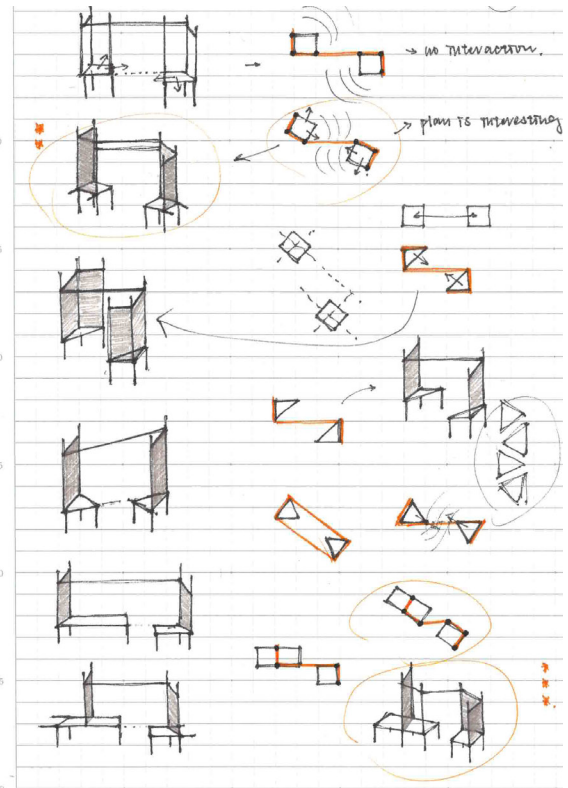
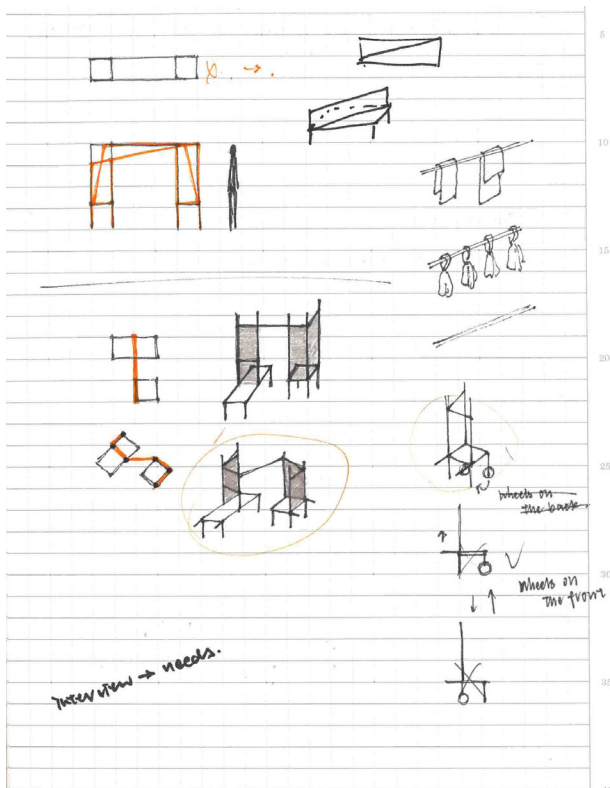
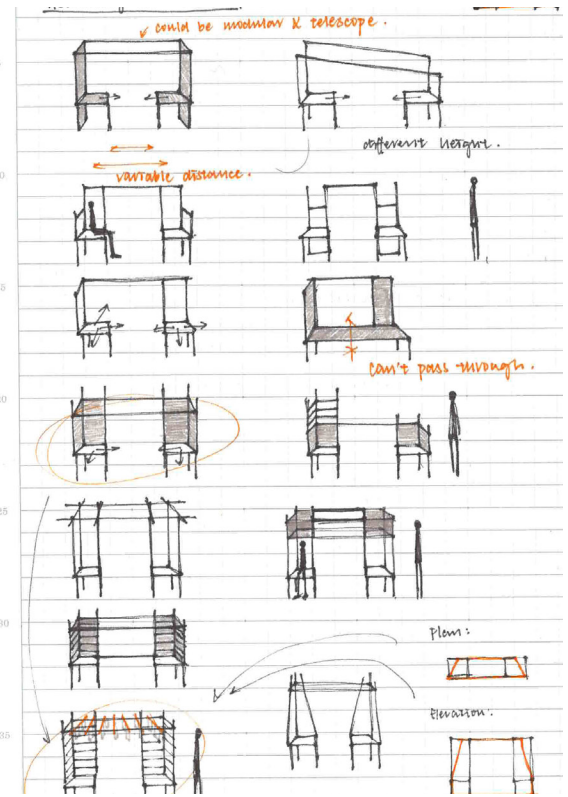
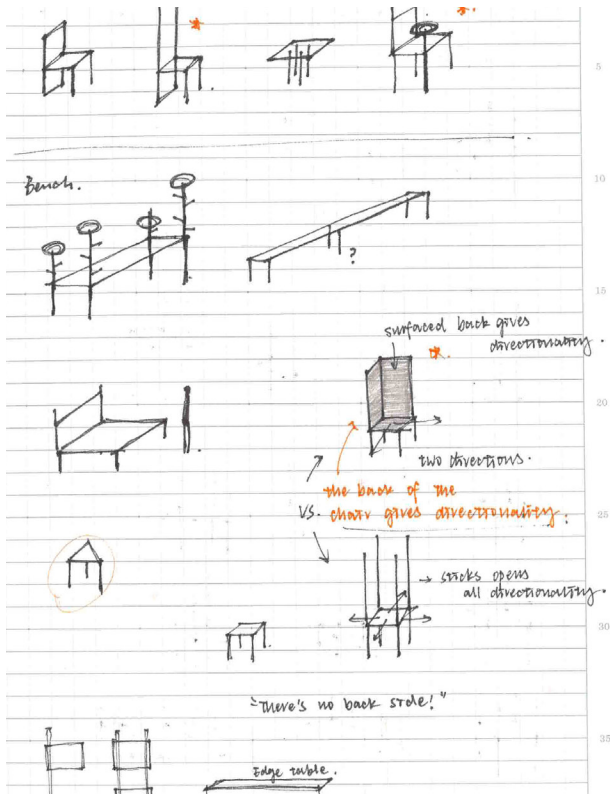


fig 22. the exchange tunnel preliminary design sketches

process

While developing the design for the exchange tunnel, three core elements guided the iteration process: interaction, functionality, and aesthetics.

Interaction: The design of the exchange tunnel is intended to facilitate meaningful engagement between the participants and the structure itself, whether conversations or observation. This interaction aspect was central to the design process, considering how participants would physically move around and use the structure, thereby fostering a dynamic community engagement.

Functionality: The exchange tunnel needs to accommodate the items being exchanged, whether tangible goods or intangible services. The design, therefore, includes designated spaces that securely hold these items temporarily. In addition, the installation also abides by the ADA design requirement for design inclusivity and ensures equal experience and access for all.

Aesthetics: The appearance of the exchange tunnel plays an important role in attracting participation, a concept discussed earlier in the thesis regarding visibility. The more unique and intriguing the design, the more it piques the curiosity of the community members. With the freedom to experiment with different forms and styles, the tunnel is crafted not just to embrace the exchange process but also to visually engage and draw in participants, enhancing the overall interactive experience of the system.

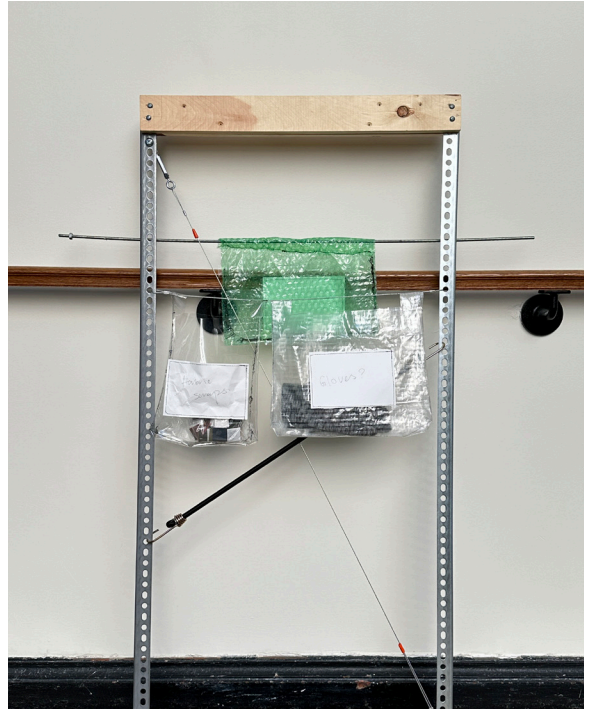
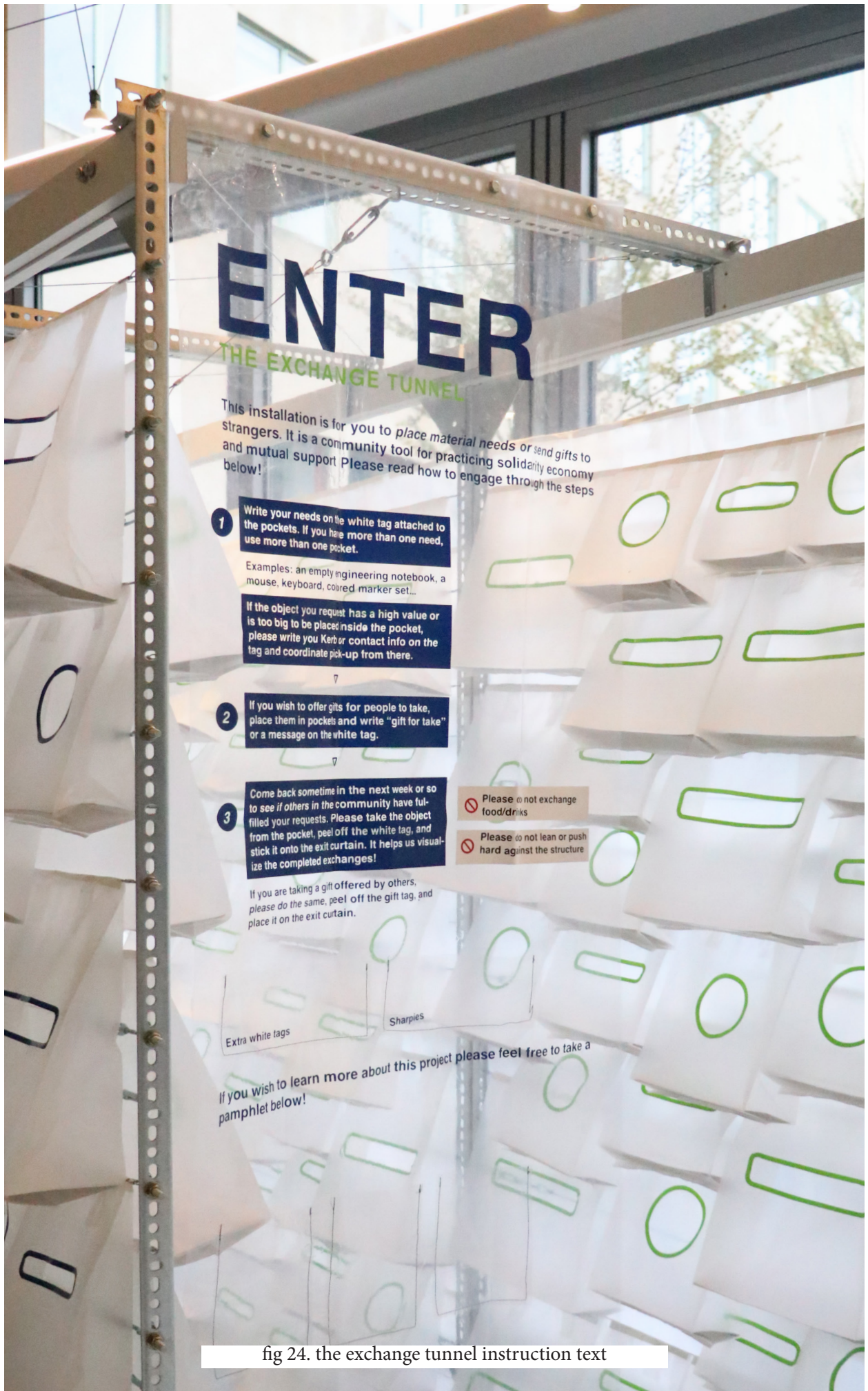




fig 23. the exchange tunnel building process



ENTER

THE EXCHANGE TUNNEL

This installation is for you to *place material needs or send gifts to strangers*. It is a community tool for practicing *solidarity economy* and mutual support. Please read how to engage through the steps below!

1 Write your needs on the white tag attached to the pockets. If you have more than one need, use more than one pocket.

Examples: an empty engineering notebook, a mouse, keyboard, colored marker set...

If the object you request has a high value or is too big to be placed inside the pocket, please write your *Kerb* or contact info on the tag and coordinate pick-up from there.

2 If you wish to offer gifts for people to take, place them in pockets and write "gift for take" or a message on the white tag.

3 Come back sometime in the next week or so to see if others in the community have fulfilled your requests. Please take the object from the pocket, peel off the white tag, and stick it onto the exit curtain. It helps us visualize the completed exchanges!

If you are taking a gift offered by others, please do the same, peel off the gift tag, and place it on the exit curtain.

⊘ Please do not exchange food/drinks

⊘ Please do not lean or push hard against the structure

Extra white tags

Sharpies

If you wish to learn more about this project please feel free to take a pamphlet below!

fig 24. the exchange tunnel instruction text

Instruction text:

The exchange tunnel you see in front of you is a tangible platform for members of the MIT community to barter goods and exchange gifts. It is a collective tool for people to engage and rethink solidarity economy and mutual support within our community through acts of giving and receiving. If there is anything you need or want to offer, please feel free to request or drop it in one of the pockets!

Step 1:

Write your needs on the white tag attached to the pockets. If you have more than one need, use more than one pocket.

Examples of requests can be: a pair of gloves, an empty engineering notebook, a mouse, a keyboard...

If the object you request has a high value or is too big/heavy to be placed inside the pocket, please feel free to write your Kerberos or contact information on the tag and coordinate pick-up from there.

Step 2:

If you want to offer gifts for people to take, place them in one of the pockets and write “gift for take” or a message on the white tag.

Step 3:

Come back sometime in the next week or so to see if others in the community have fulfilled your requests. Please take the object from the pocket, peel off the white tag, and stick it onto the exit curtain. It helps us visualize completed transactions!

If you are taking a gift offered by others, please do the same: peel off the gift tag and place it on the exit curtain.





fig 25. the exchange tunnel courtyard view

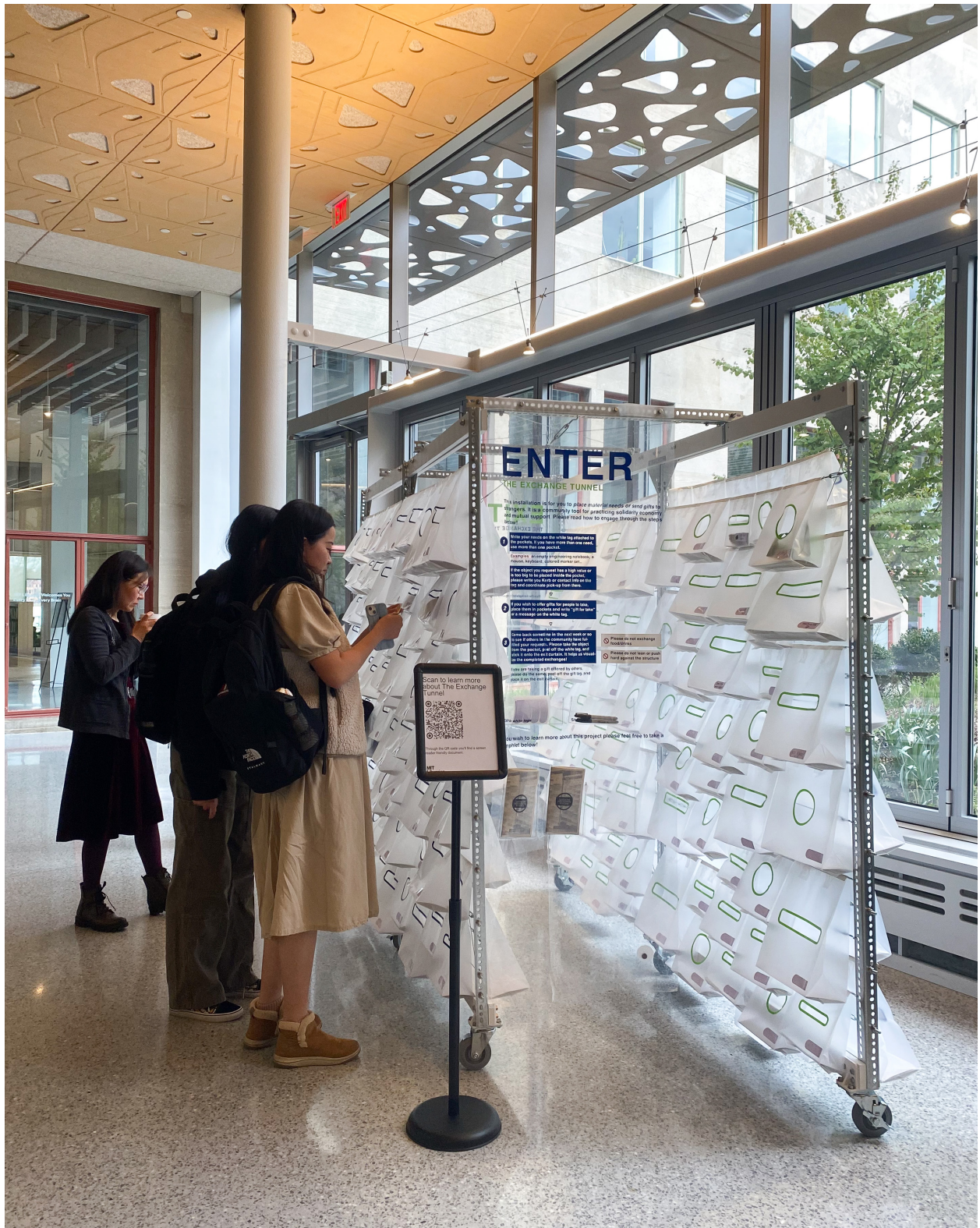


fig 26. the exchange tunnel engagement

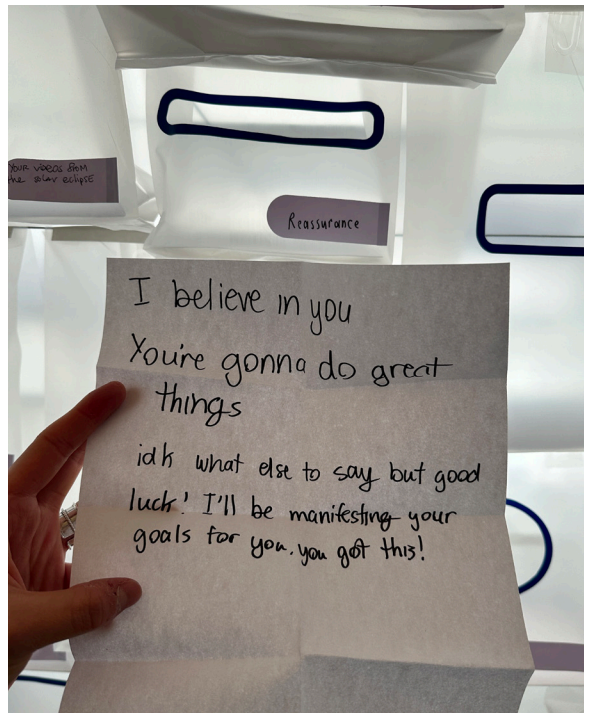
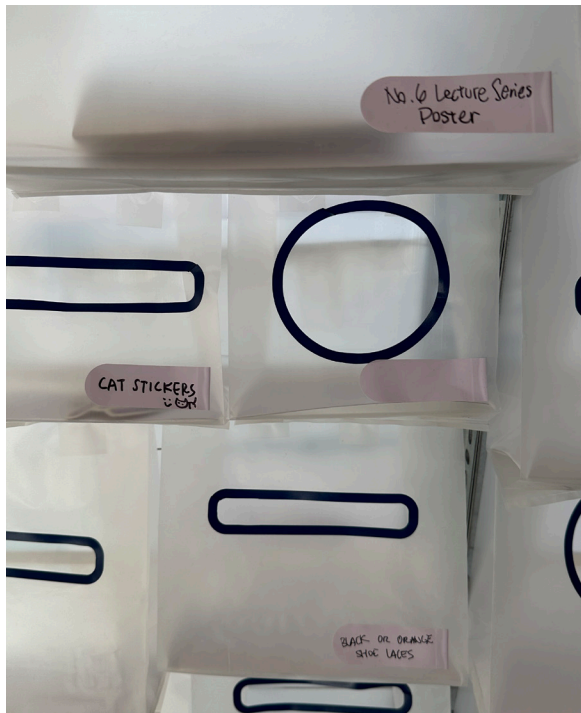


fig 27. the exchange tunnel example requests

requests and gifts...

Requests:

reassurance
cat stickers
Your favorite book
a mouse
phone charger
a squishy toy
MIT merch
shoe laces
flower pot
love
stationary
AA batteries
a hug
rollerskating buddy

Gifts offered:

cookie
tote bag
book
stickers
gift cards
electronics
merch
notecard
gloves

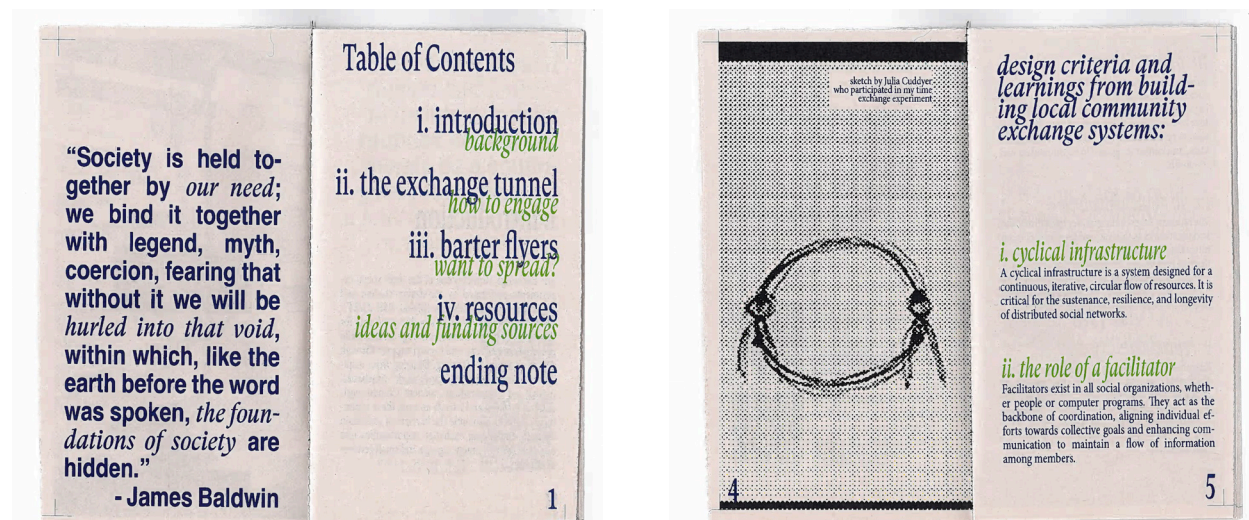
etc...



fig 28. the exchange tunnel in-use

documentation

As highlighted in Chapter Two, documentation is essential for facilitating the future replication of the system. In line with this, the exchange tunnel is complemented by a zine that documents the entire creation process, serving as a helpful resource for anyone interested in exploring the project further. The zine encompasses a precedent analysis, design criteria, descriptions of other experiments included in the study, funding sources, inspirational materials, and acknowledgments. This zine is readily available at the installation site, providing free and easy access for all community members.



iii. adaptability
Drawing from Burnham's "System Esthetics," our society is transitioning towards a focus on systems over the specific subjects of exchange. The structure and design of these systems should facilitate various types of exchanges, such as knowledge, services, and consumer goods, to accommodate various needs.

iv. no money involved
The rationale for excluding money from distributed social networks is to create spaces where community values, fairness, and participation matter more than making money. By removing monetary transactions, these networks encourage genuine social interactions, undistracted by the pursuit of profit, thereby fostering more meaningful connections.

v. reproducibility
Reproducibility is critical in designing a scalable distributed network. Therefore, the underlying principles need to be simple and versatile. The system should allow anyone who wishes to implement a similar system within their community to do so with ease, facilitating expansion from a local to a trans-local scale.

It is important to note that all experiments performed in this study do not prioritize efficiency in terms of transactions or relationship building; instead, they rely on *serendipity, unexpected encounters, genuine offerings, and curiosity* to facilitate connectivity through their physical presence.

6 7

process:

Never a one-person job.

10 11

iii. barter flyers

Earlier in the school year, I started creating flyers and posters for people to request help and barter within the MIT Architecture department and Cambridge area. If you are interested in learning or spreading the system in your community or neighborhood, please scan the QR codes below to learn more and download the templates!

scan to read more about this project and download the template

12 13

let's practice collective barter for an alternative economy

The collective barter poster was an experiment performed within the MIT architecture community for people to write requests and fulfill needs. It helps members of the community to visualize the completed exchanges. Example requests include thread, costumes, glaze for ceramics, teapot...

If you are interested in duplicating the template and putting it in your community, please feel free to download the PDF/illustrator file attached to the QR code.

scan to download the template

14 15

iv. resources

Over the past couple of months, while researching, organizing, and creating public engagement tools and mutual support systems, I have collected a list of resources that I find helpful. I want to share them here if you find any of them interesting. The material and funding sources are mostly centered around MIT, where the projects are taking place.

readings

- Tools for Conviviality - Ivan Illich
- The Gift - Mauss
- Making and Being - Caroline Woolard
- Emergent Strategy - Adrienne Maree Brown
- How Together - ConstructLab
- Entangled Life - Merlin Sheldrake
- 24/7 - Jonathan Crary

systems

- Timebanks
- Solidarity NYC
- Little free libraries
- TradeSchool

makings

- takk
- ConstructLab
- Atelier Craft
- StreetLab
- Deep Craft
- Stock-a-Studio

16 17

free/reuse materials

- MIT Reuse
- N51 Reuse loading dock
- PDL Reuse
- MediaLab Reuse
- Stata Center Loading Dock
- MIT Edgerton Center

funding sources (@MIT)

- CAMIT Grant
- MindHandHearts Innovation Fund
- Baker Foundation
- Mad Money Grant
- MIT Crowd-Fund
- MIT ICFO Fund

18 19

fig 29. zine documentation snippets

iv. reflection

observations and learnings

In reflecting upon the several experiments conducted in this study designed to foster community connectivity through playful and engaging public tool-making, some observations and findings are worth mentioning here. These experiments, rooted in practical applications and enriched by social interactions, were not only about the functional use for material or service transactions but also about the conversations and interpersonal relationships they ignited. This reflection seeks to synthesize the lessons learned from these systems' design, implementation, and outcomes, delving into their effectiveness, the unexpected joys they brought, and the challenges faced in measuring the actual impacts. As we explore the future steps, this reflection provides an opportunity to assess the broader implications of these community experiments and consider how they can be refined and expanded to enhance their value and reach within a community.

The experiments' core intent was to provide service opportunities based on needs. The effectiveness of these systems in bridging the helpers to the people in need was paramount in determining the completion of the project. In the barter poster and exchange tunnel experiments, with the onsite documentation of the exchange and the fixed locations, the result indicates a higher request fulfillment rate. This suggests that the experiments effectively met participant needs and facilitated straightforward follow-up for data collection. Conversely, the mobile nature of the 'need help' flyers experiment presented challenges in tracking usability. Although supermarket feedback suggests that community members are actively taking and filling out the forms, the actual fulfillment rates remain uncertain. This variability in tracking highlights the different dynamics and outcomes across the experimental designs, reflecting their respective strengths and limitations in meeting the intended goals. In conclusion, the static nature of the barter poster and the exchange tunnel served as a place marker that signifies and emphasizes the functional use of the experiments. It also helps facilitate more reliable methods for tracking interactions, which can contribute to later analysis of the effectiveness of the systems. On the other hand, the mobile 'need help' flyers, despite their wide-spread distribution and high replicability, faced challenges in understanding the actual impact. Moving forward, incorporating onsite visualization of the completion of the requests and finding the balance between mobility and accessibility will be crucial in designing the community support system.

Beyond merely exchanging material needs, the experiments were designed to foster interaction among participants, acting as community connectors. The barter poster and the “need help” flyers facilitate relationship building by allowing the users to leave contact information and dedicate time to helping people who are in need. In addition, the exchange tunnels were functional and designed to create a communal gathering space that encouraged dialogue and interaction. This was evident as individuals engaged in the exchanges and shared stories offered advice, and extended support beyond the immediate scope of material support. When designing a public engagement installation to foster social cohesion and connectivity, it’s also important to maintain flexibility in its structure. Such installations should not impose rigid patterns of movement or behavior on participants. Instead, they should be open and accessible, providing ample opportunities for serendipity. This approach allows unexpected connections to form naturally, enhancing the organic development of relationships and interactions within the community.

During the experiments’ design and implementation, I also observed internally the hours and energy expended. The barter poster and “need help” flyers required relatively little time to design and prepare due to the easy accessibility of materials like paper, as well as simple and versatile design. These systems are beneficial due to their reproducibility and suitability for self-organized initiatives. In contrast, the exchange tunnel involved a significant investment in both labor and materials, but it also garnered the a relatively high level of participation among all the experiments. This observation suggests that while there isn’t necessarily a direct correlation between the amount of material and time investment and the impact of an experiment in this study, higher resource investment can enhance the visibility and functionality of an installation, potentially increasing engagement. The key takeaway is the importance of balancing resource allocation with the desired outcomes, ensuring that the investments align with the goals of the experiment.

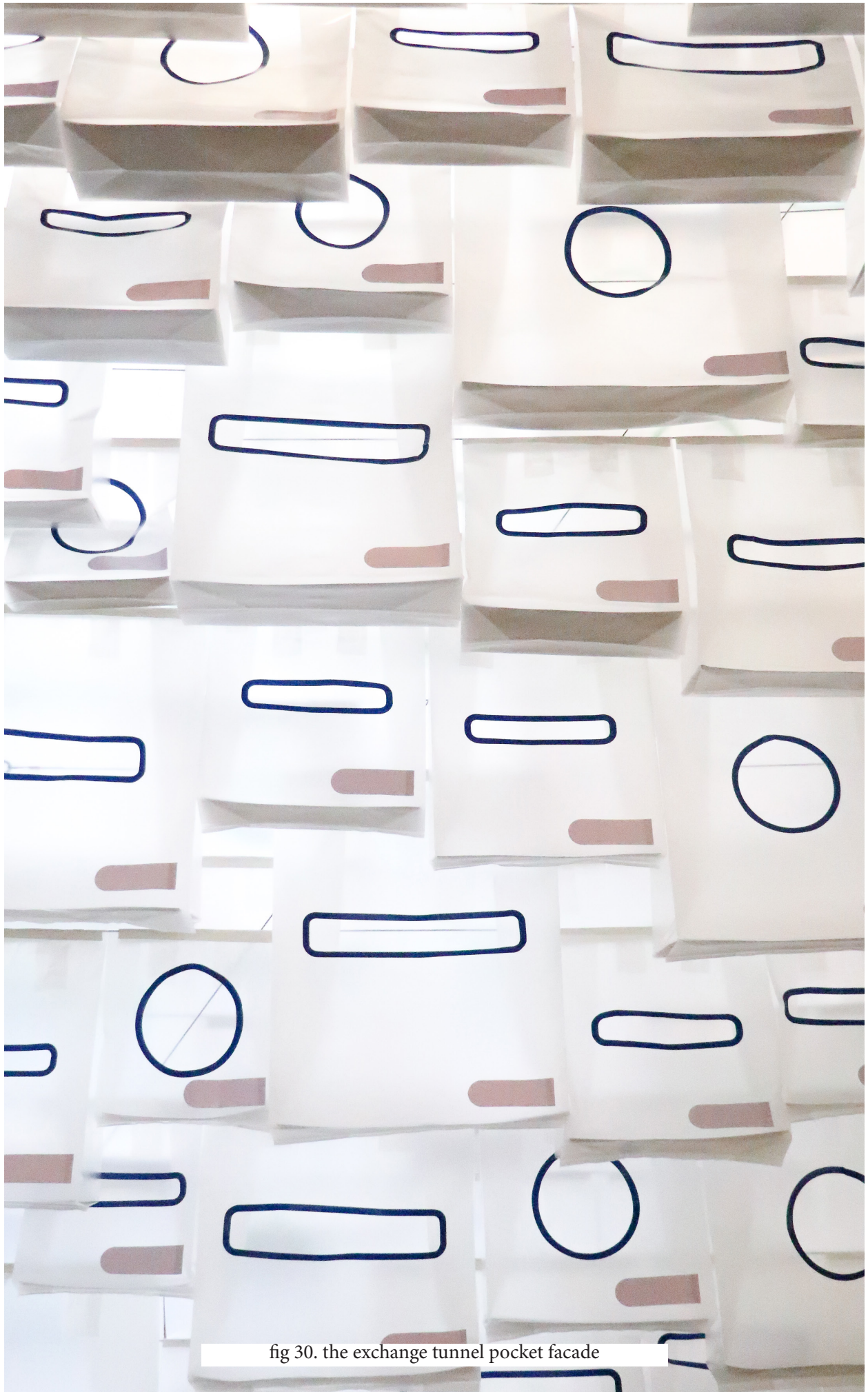


fig 30. the exchange tunnel pocket facade

v. ending note
gains

Over the past few months, I have been both thrilled and deeply moved by the enthusiastic participation and active contributions to these experiments. Initially, the study aimed to bridge connections and provide opportunities for people in need. However, as the project evolved, I found myself becoming an active part of the participant community that benefited from forming new friendships, receiving support, and gaining invaluable knowledge.

This journey has transformed these experiments from mere academic pursuits into a profound personal and social exploration. I have come to view this project as a foundational testing ground for studying social dynamics and interactions personally. Inspired by the initial learnings, I hope to continue this exploration and focus on experimenting with and refining new forms of distributed social networks. The goal is to enhance connectivity, foster kinship, and promote closeness in our increasingly disconnected world, always with a tint of playfulness. Thank you all who have been a part of this journey.

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fig 31. the exchange tunnel day view

