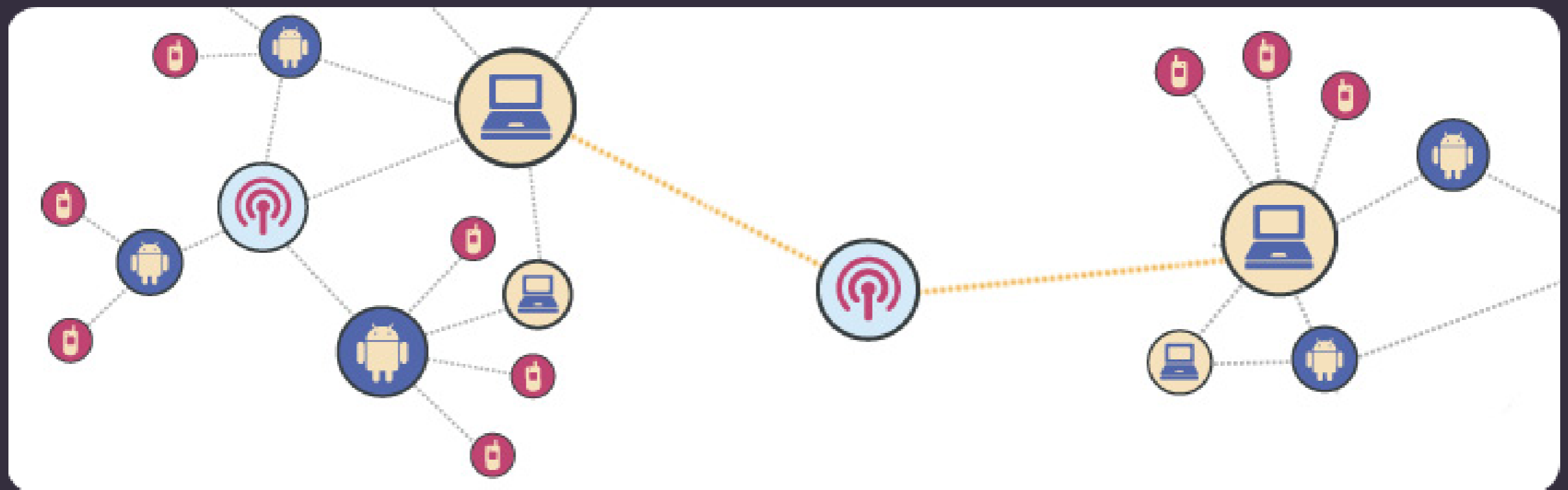


# Social Module

Jonathan Baldwin

# Thesis Focus

## Social Layer in Wireless Mesh Network Communities



# Why Mesh?

Share connectivity anywhere

Repairs itself on the fly

Lower Cost

Decentralized

Use in emergencies/political uprisings/rural



# Social needs of mesh?

“Community Building over Neighborhood  
Wireless Mesh Networks” IEEE Tech & Society 2008

---

## Incentive mechanisms:

- Reward cooperation & resource sharing
- Build Reputation / Trust



# Social Network Theory

Dr. Karen Stephenson & many others

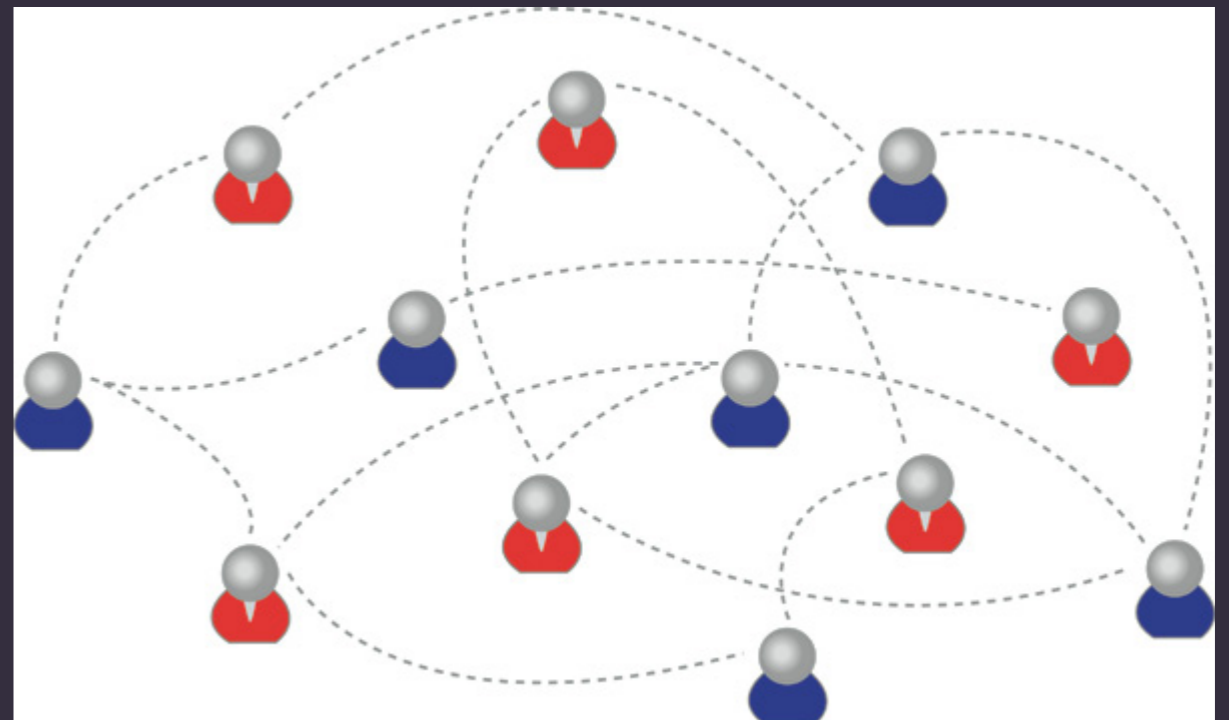
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Communities are interdependent

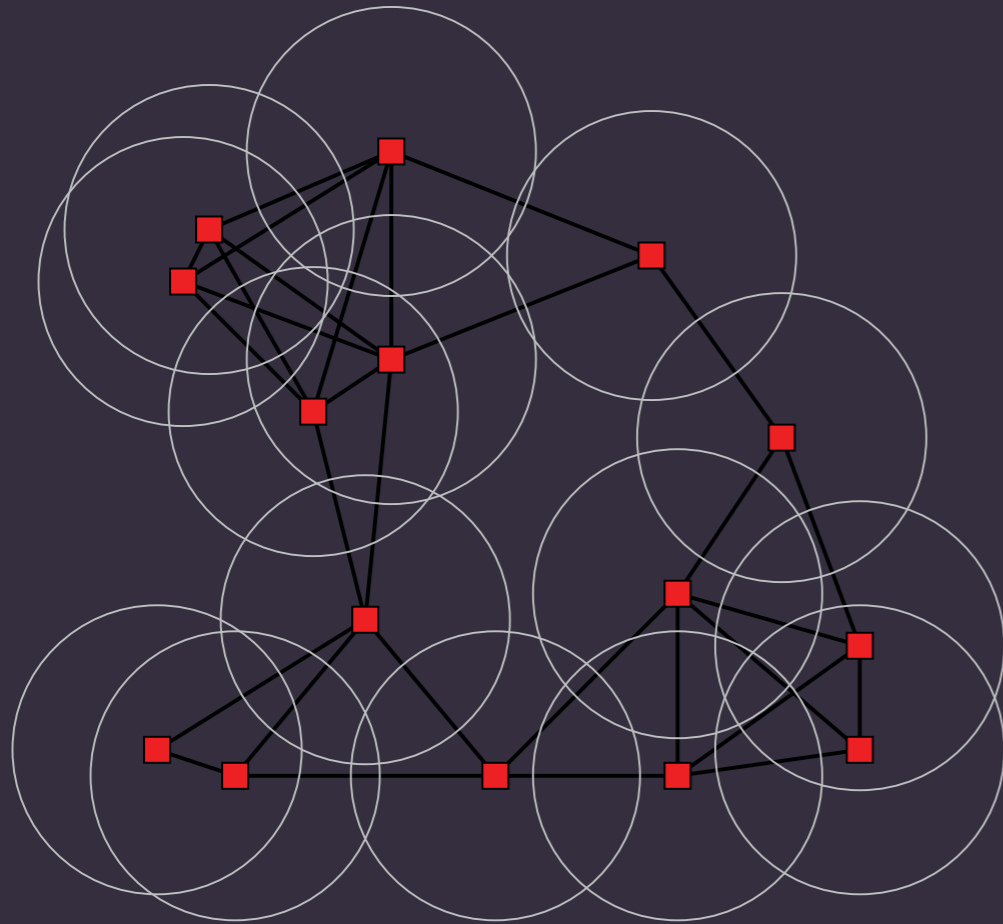
Reciprocity key for perpetual network with strong trust between users

Used across many fields of study

- Humans,
- Computers, etc.



Emergent ad hoc  
backbones  
critical for stable  
connectivity &  
high speeds



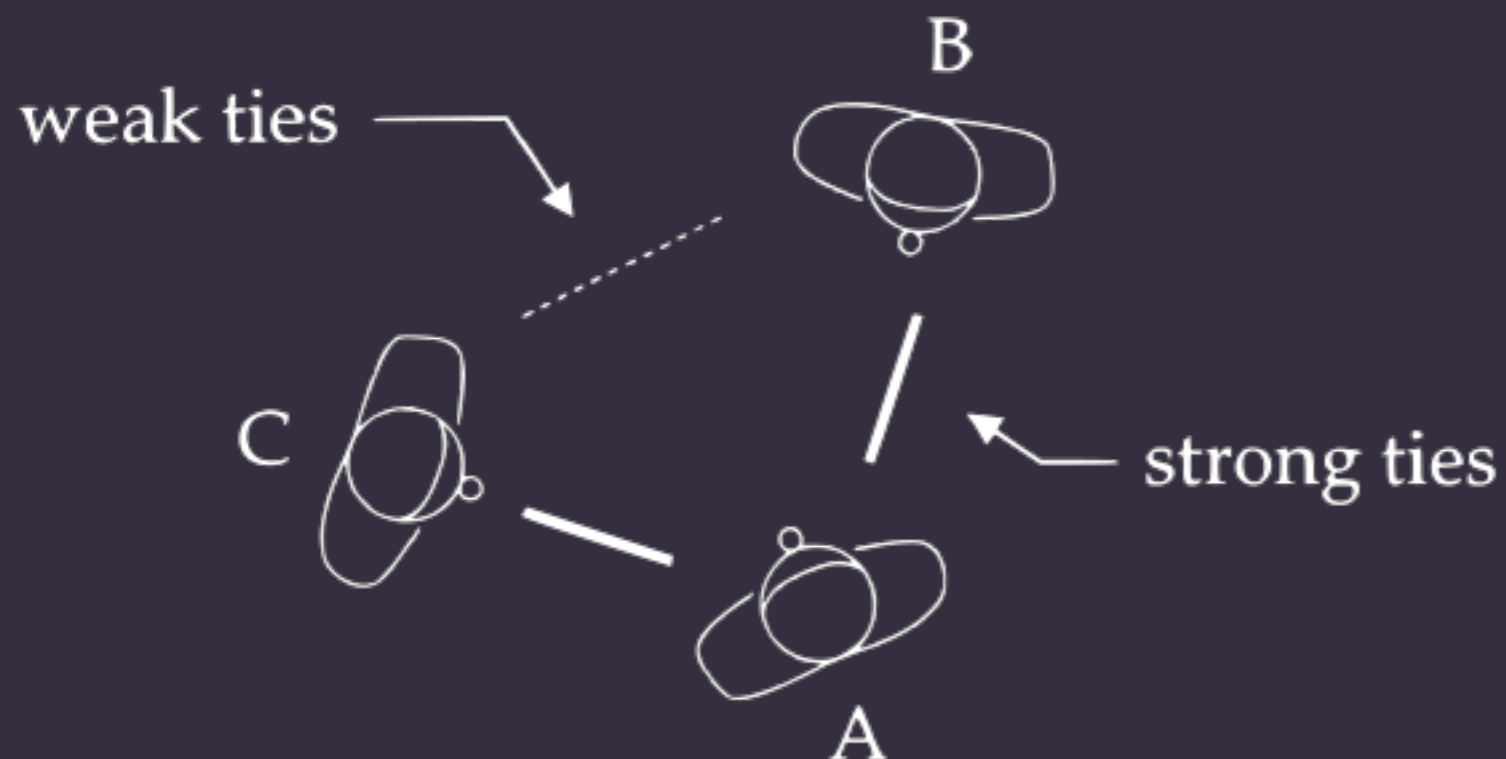
© WildNatureImages.com

# Strong vs. Weak Ties

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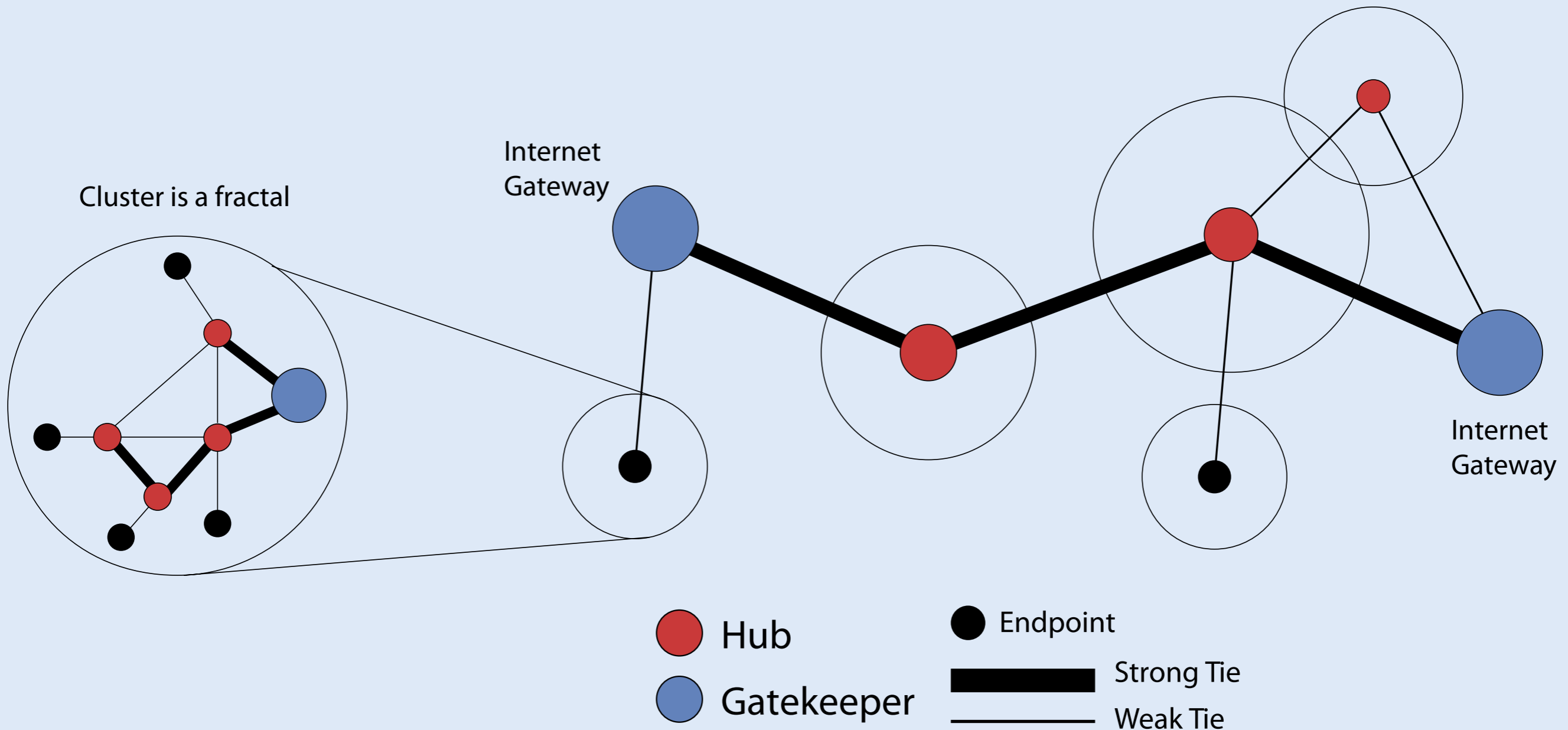
Clustering of similar groups,  
virtual & local

Strong ties require more bandwidth  
(backbone) to keep up communication



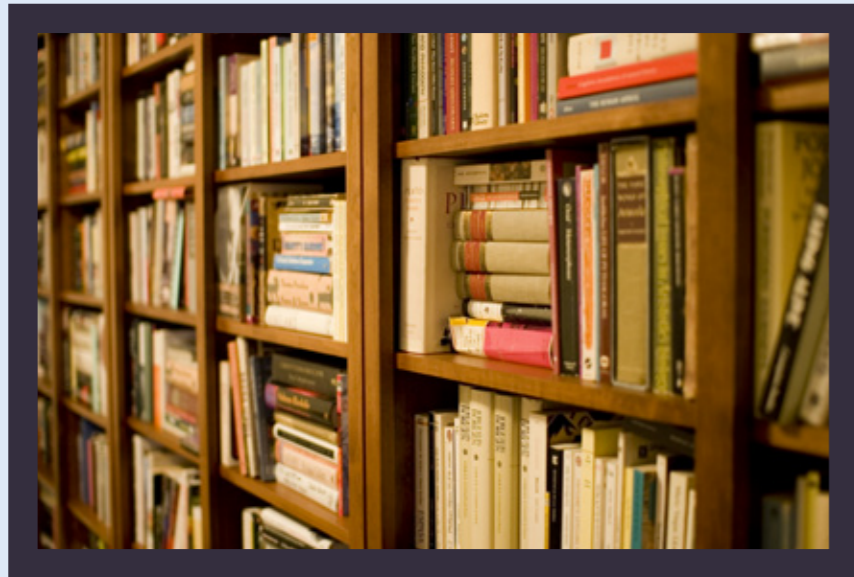
**Strong tie =  
backbone**

# Ideal Metropolitan Topology



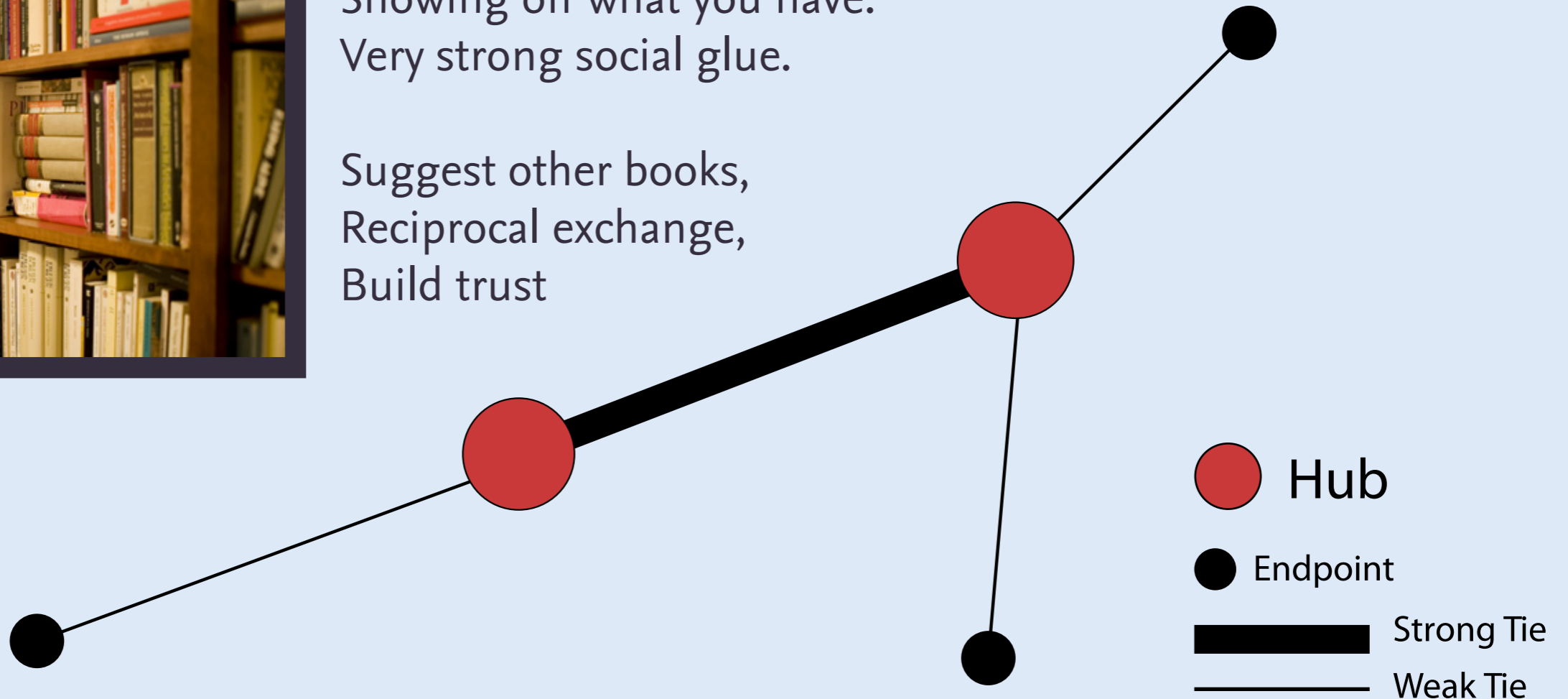


# Physical Community Network



Showing off what you have:  
Very strong social glue.

Suggest other books,  
Reciprocal exchange,  
Build trust



Macro scale:

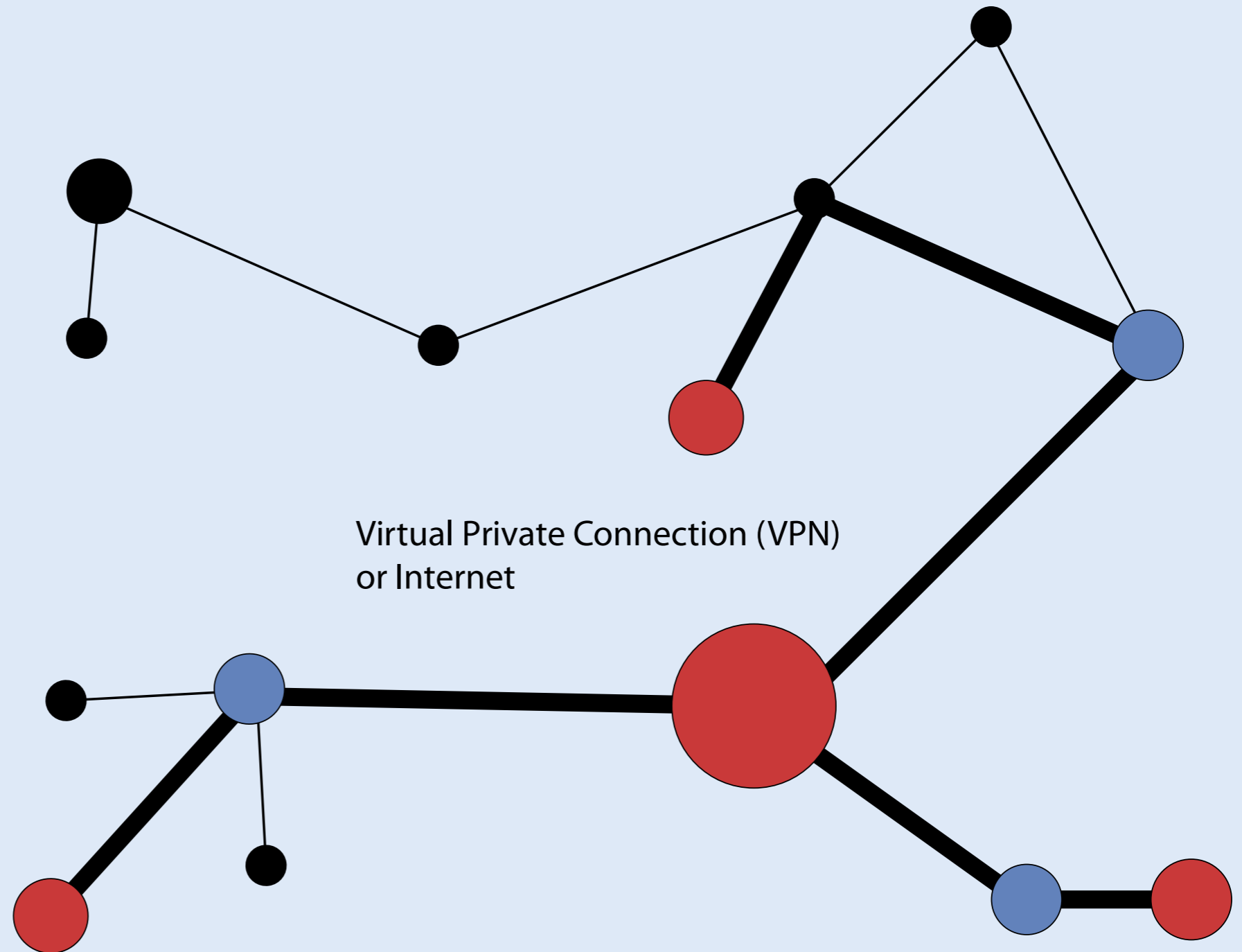
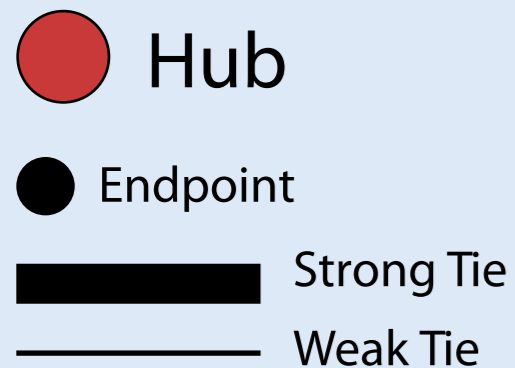
Shared library between schools

Micro scale:

Bookshelf at house

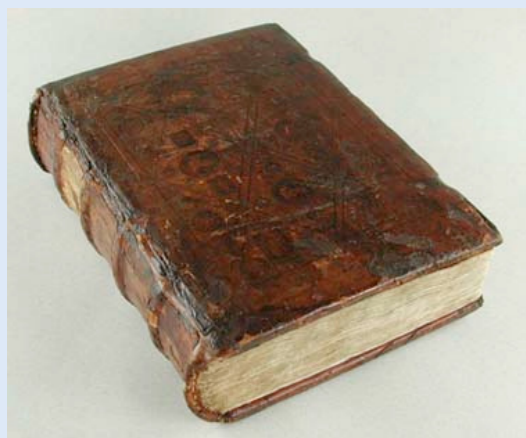
# Virtual Community Network

Discussing book on forum, sharing reviews or thoughts, scanned pages, eBook file



# Merge Network Gaps

Quantify virtual & physical goods, relationships, interests, trust

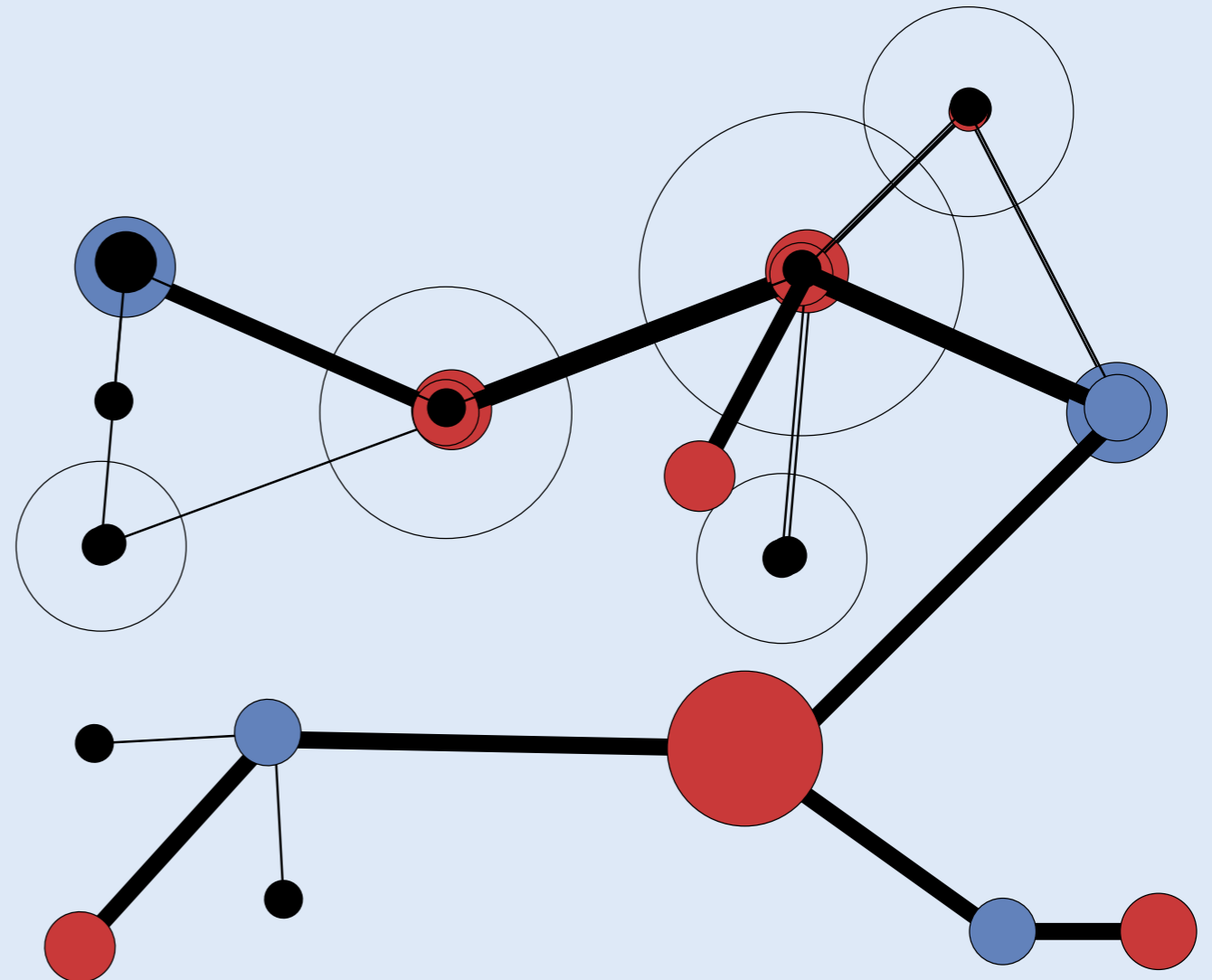


List of books to loan

=

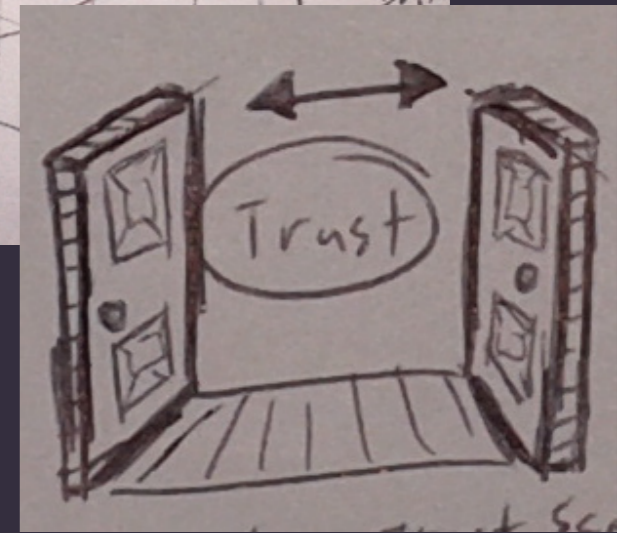
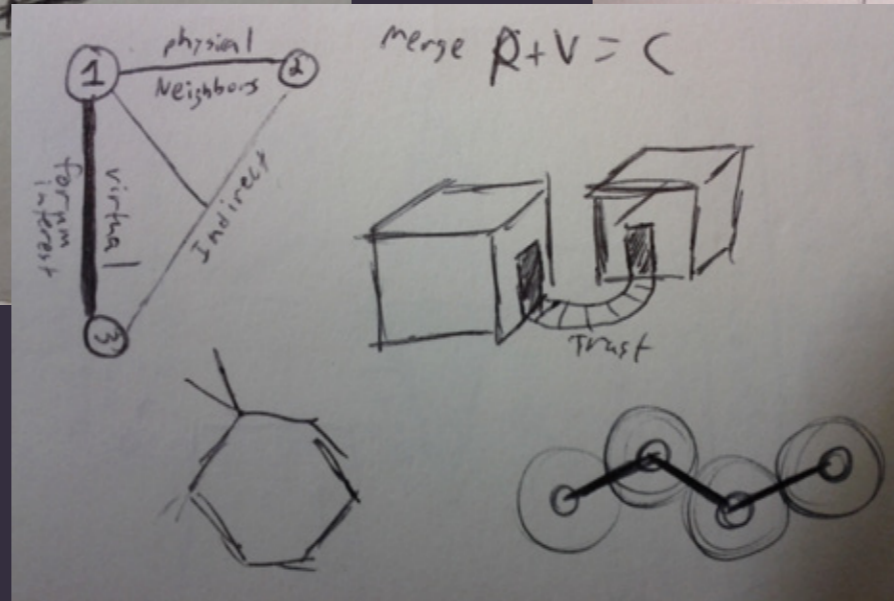
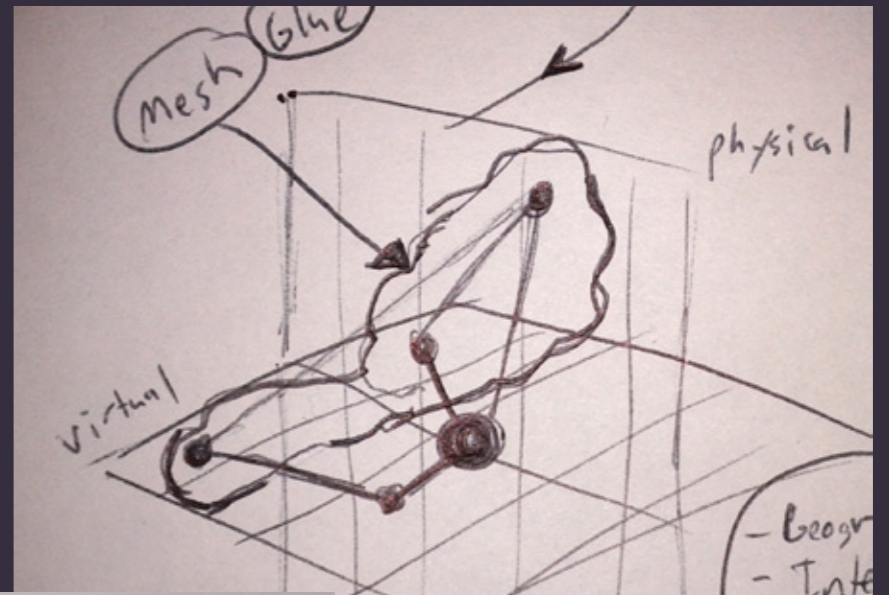
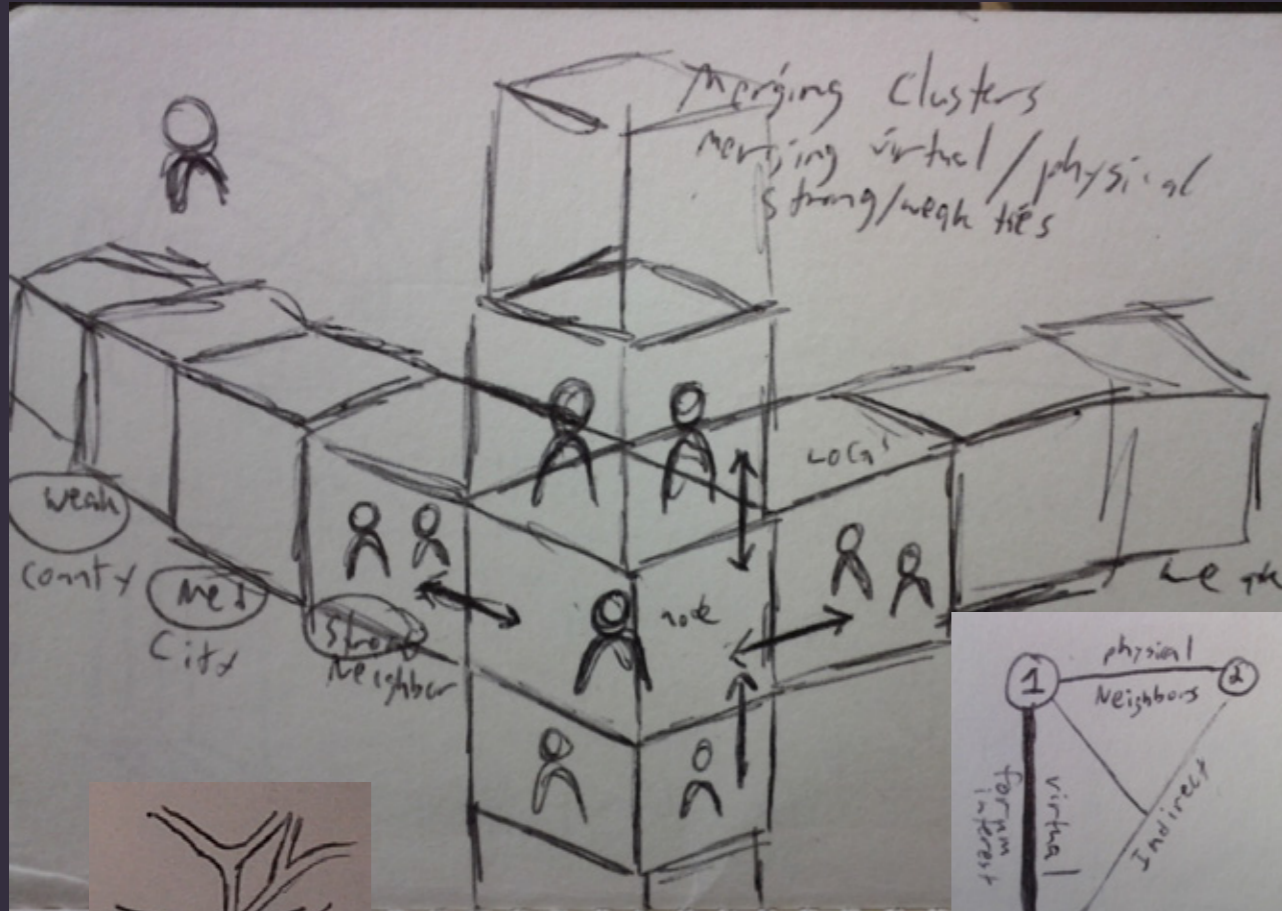


List of files to share



Reciprocal Exchange Economy

# Visualizing Merge



## Community Network Survey

*This survey is for research on the social layer in community wireless networks. Please send to all others involved in community networks.*

What is the name of your community network? Where is it located?

How many people are part of the community network?

- Less than 20 people
- Less than 100 people
- Less than 250 people
- Less than 500 people
- Less than 1000 people
- Less than 2000 people
- More than 2000 people
- Don't Know

How do you contribute to the network, what is your role?

How do you feel about your community network?

- Proud
- Disappointed
- Hopeful
- Hopeless
- Indifferent

Has the community network developed or strengthened relationships you have with other members? In what ways?

## Translator



## Oh...

Hey, this is my Research/production blog for MFA thesis in Design + Technology dept. at Parsons.

A [summary of my process](#) so far. Thanks for hanging out! ♥

## Categories

[Concept](#)  
[Uncategorized](#)

## Recent Posts

[Community Network Survey  
Prototype 1  
And now there's a thesis blog](#)

**What is your role?**

**Ever have a bad member? How was it solved?**

**Equal responsibility to maintain mesh?**

**Do you feel engaged in your community network?**

**Do you have a say in how it's run?**

**Do you have a reputation/ status in the community?**

**Gemeinschaft vs. Gesellschaft Community Theory**

**Social Capital Theory**

**Anthropology of Online Communities**

**Digital ecosystems**

**Community Building on the Web**

# Social Network Analysis

jrbaldw-in+on+around  
...thesis blog

Search

### Community Network Survey

This survey is for research on the social layer in community wireless networks. Please send to all others involved in community networks.

What is the name of your community network? Where is it located?

How many people are part of the community network?

Less than 20 people  
 Less than 100 people  
 Less than 250 people  
 Less than 500 people  
 Less than 1000 people  
 Less than 2000 people  
 More than 2000 people  
 Don't Know

How do you contribute to the network, what is your role?


How do you feel about your community network?

Proud  
 Disappointed  
 Hopeful  
 Hopeless  
 Indifferent

Has the community network developed or strengthened relationships you have with other members? In what ways?

Yes  
 No  
 Weakened the relationships  
 Don't Know

**Translator**



**Oh...**


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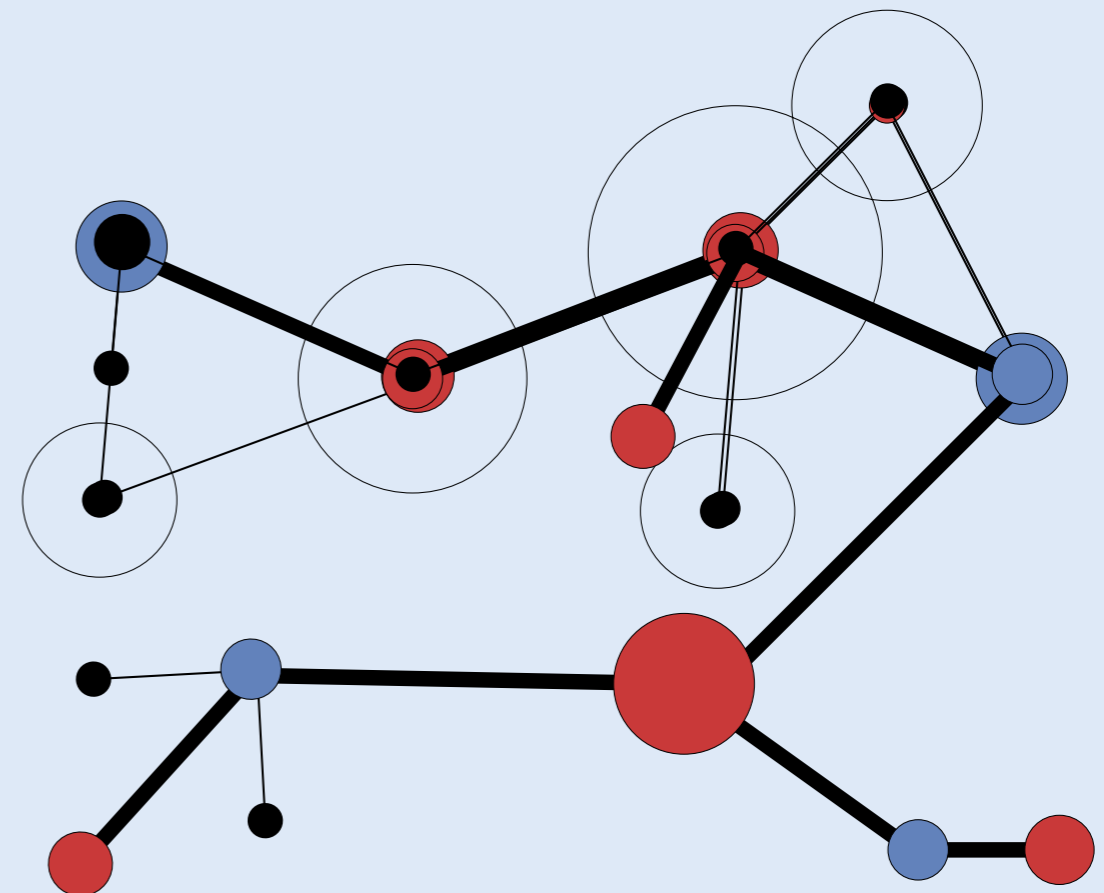
**Categories**

Concept  
Uncategorized

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Prototype 1  
And now there's a thesis blog

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Ripped apart [washovertheme](#)



Economy Geography Community

# Metering Ties to Users

---

# of links

Frequency of communication

Significance of communication

# of people message passes through



Stakeholders (Mondonet, Freedomnet, etc.)  
know where to tweak mesh connections for  
social optimization



**Thanks!**

**Jonathan Baldwin**  
**[jrbaldwin.com](http://jrbaldwin.com)**