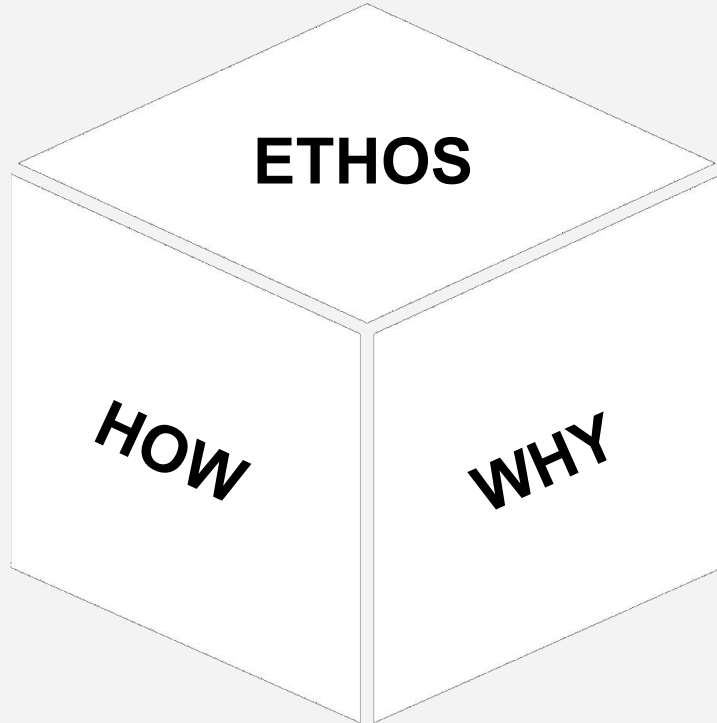


# Open Source Communities



**Bradly Alicea**  
Open-source Manager  
Rokwire Community



**Slides available:**

[https://tinyurl.com/RokComm-ITPF-  
June-2021](https://tinyurl.com/RokComm-ITPF-June-2021)



Platform for developing mobile applications that  
enables smart communities

Illinois App, Safer Apps (Illinois, Communities)

Leverage mobile apps to realize smart, healthy  
communities (campus initiative)



# **How and Why do we “Work Open”?**

**What are the benefits (payoffs) and drawbacks?**

**Does this require a shift in perspective?**

# How and Why do we “Work Open”?

## What are the benefits (payoffs) and drawbacks?

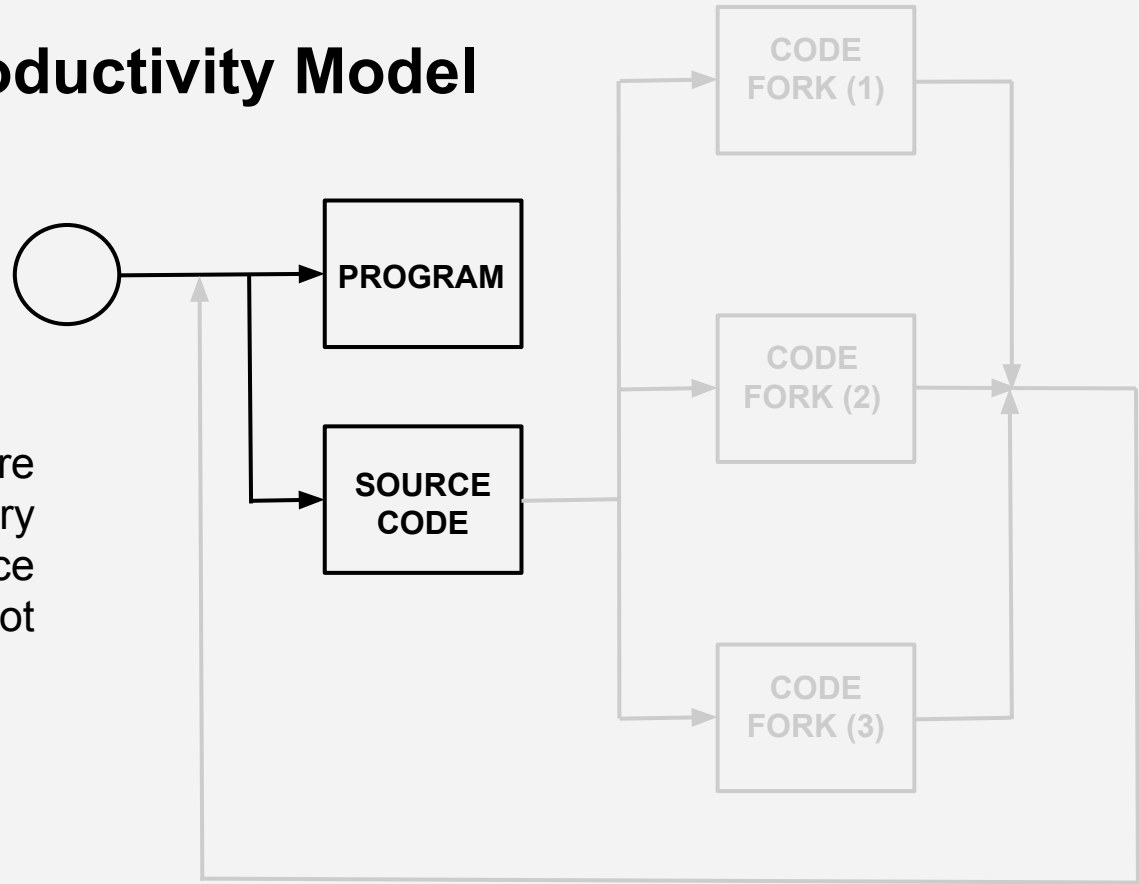
### Does this require a shift in perspective?

**Developing an “ethos” of open-source:**

Think of your efforts in terms of productivity, copying and sharing (forking), idea genealogy, and the social implications (capital and contracts).

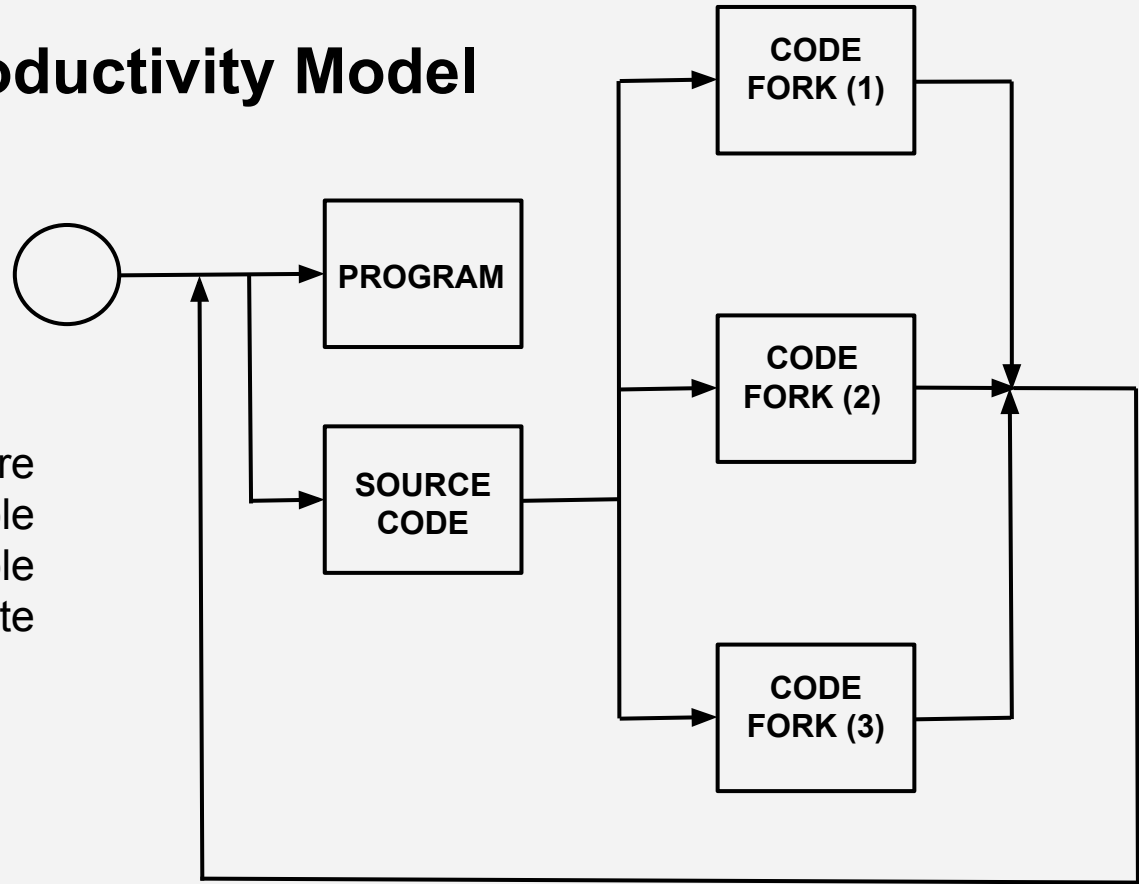
# Open-source Productivity Model

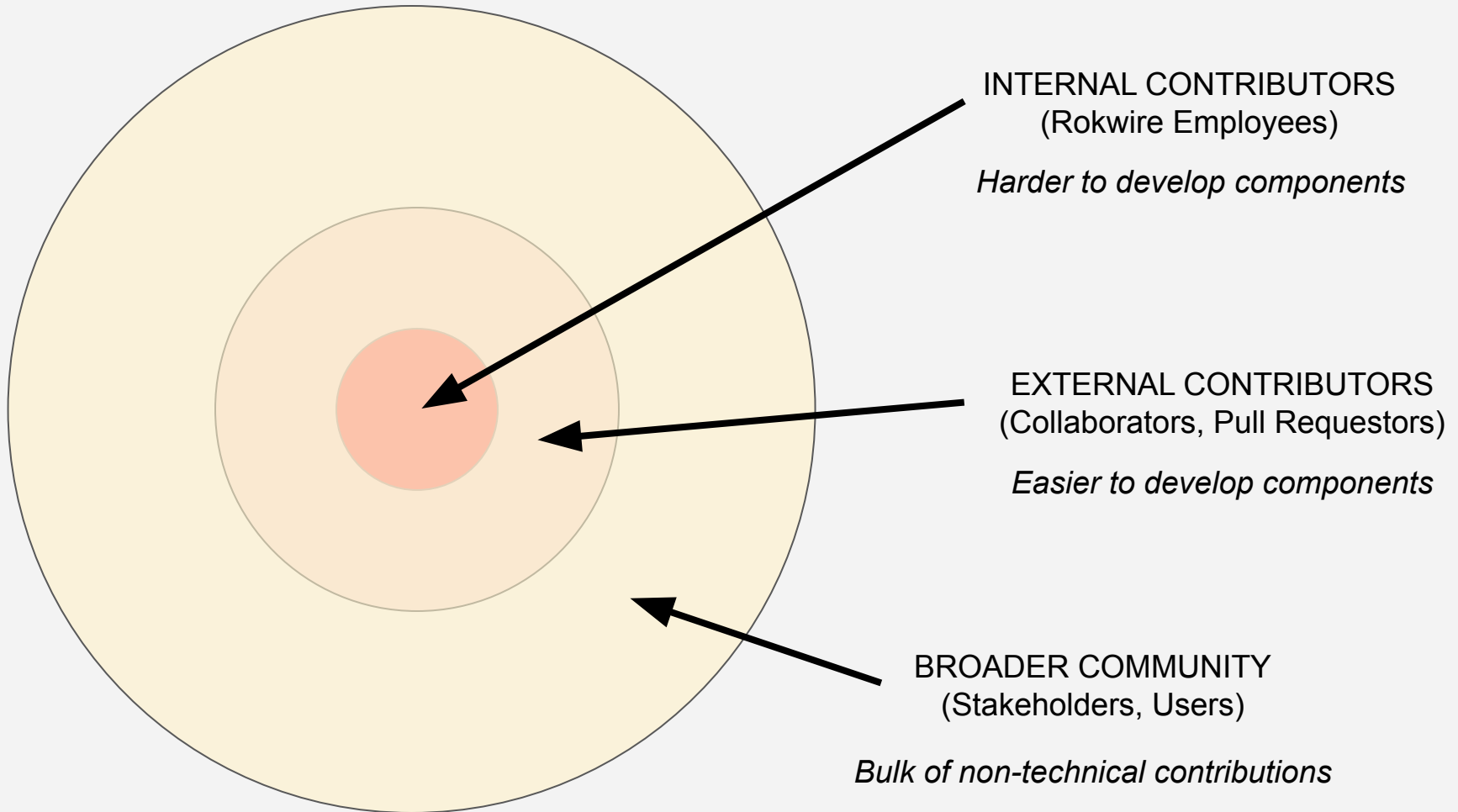
Closed-source software provides a proprietary “program” with source code that is not freely-available.



# Open-source Productivity Model

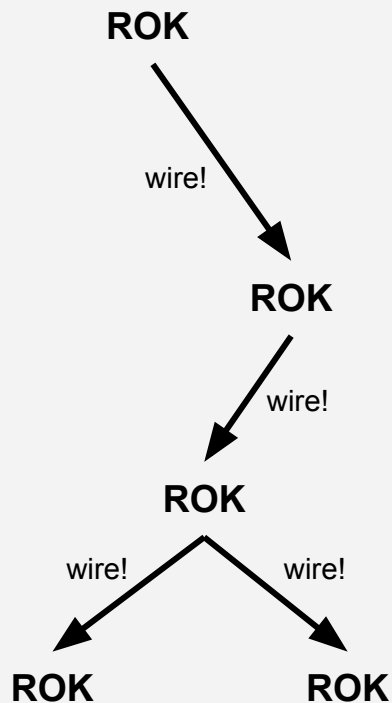
Open-source software provides freely-modifiable source code where people can make forks (alternate copies).







# ROKWIRE



**Rokwire is a series of “roks” (building blocks).**

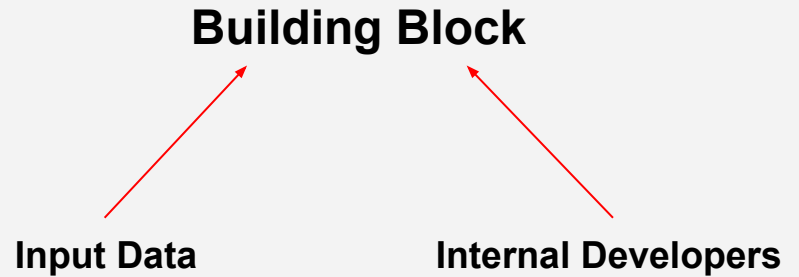


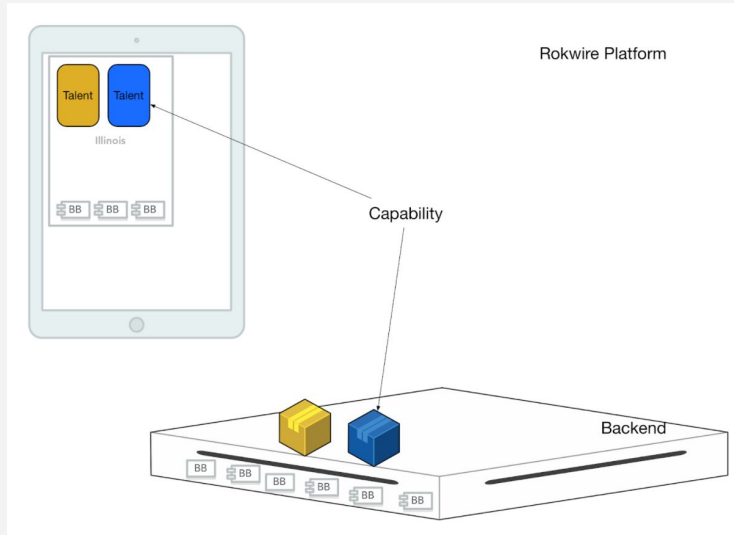
**Connected by a series of “wires” (dependencies taking the form of data connectors).**





## Rokwire Architecture

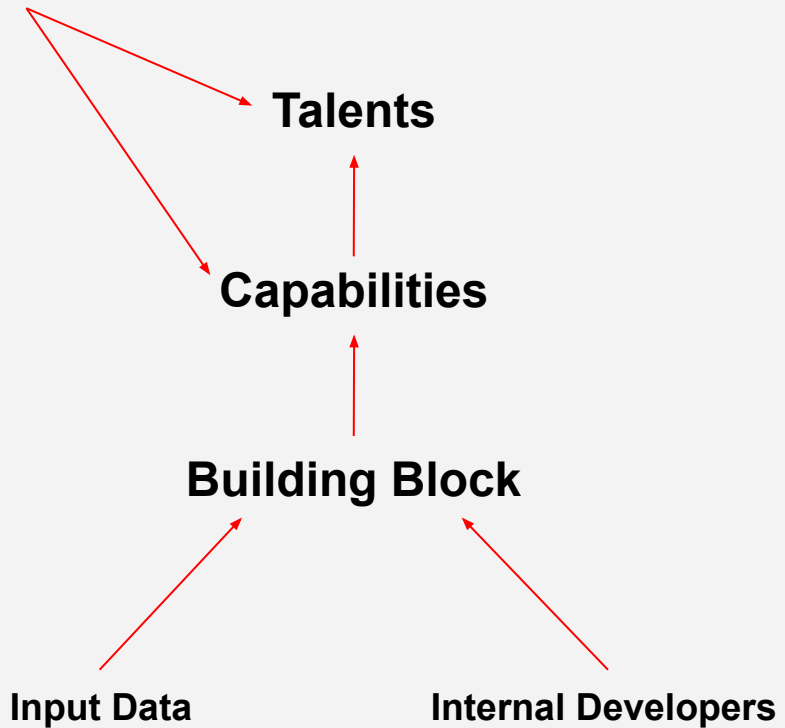




### Rokwire Dictionary:

<https://github.com/rokwire/rokwire-community/wiki/Rokwire-Dictionary>

**External Developers**



**Now Available!**

Building Block API

<https://github.com/rokwire/rokwire-building-blocks-api>

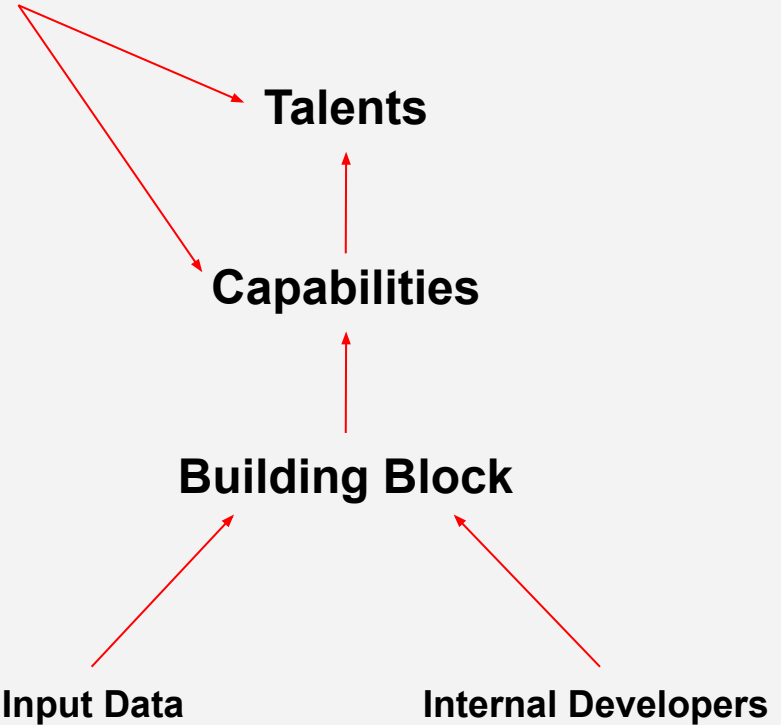
API Documentation

<https://api.rokwire.illinois.edu/docs/>

**Coming Soon!**

Contributions catalogue/packager

**External Developers**





## Rokwire

Rokwire is an interdisciplinary project for building an ecosystem for smart, healthy, and connected communities. The remaining modules will be made open soon.

<https://rokwire.org/> [rokwire@illinois.edu](mailto:rokwire@illinois.edu) [Part of University of Illinois System](#)



[Repositories](#) 54 [Packages](#) [People](#) 89 [Teams](#) 15 [Projects](#) 2 [Insights](#)

# Make code and documentation contributions!

### Top languages

[Go](#) [Python](#) [Dart](#)  
[Objective-C](#) [Java](#)



Welcome to the Rokwire Community wiki!



Rokwire Community is ready to engage with you! This Wiki will guide you through the basic terminology of the Rokwire platform, in addition to the things you will need to be a successful contributor to this community!

Check out the [Rokwire Community on the web](#) for more information about upcoming events, educational resources, publications, and more! Consult our [code of conduct](#) to get up to speed on our rules for Community contribution.

**Follow our Wiki and Blog  
to get engaged with our  
Community culture!**

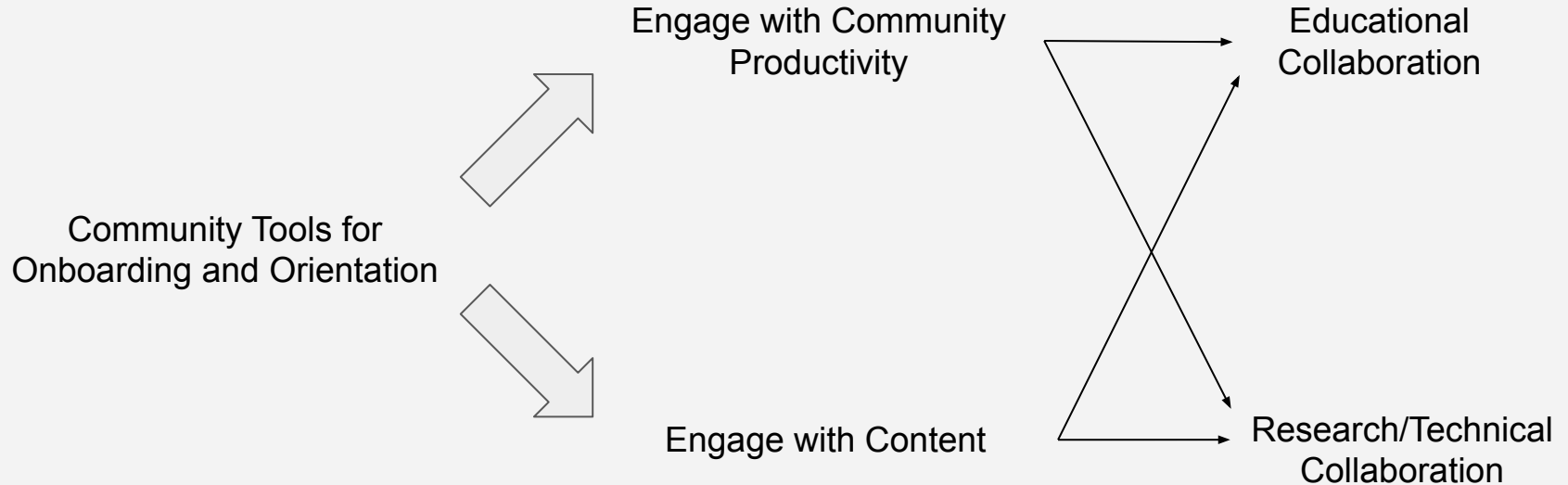
## Why Do We Have a Community?

by Balicea@Illinois.Edu on December 2, 2020 in Uncategorized

Here are some new slides on why we have an open-source community. The more in-depth video tutorial and discussion (43 minutes long) is [available here](#).



# From Onboarding to Engagement



# Typical Beginner Issues

**Submitting a Bug Fix**

**Earn a Microcredential**


**Add a New Feature**




**Update Documentation**

**Issue a Pull Request**


**Answer Questions**


# Using issues to assign tasks and organize related resources.



 [greenelab / deep-review](#)














 Watch 128  Star 1.1k  Fork 260

[Code](#) [Issues 418](#) [Pull requests 2](#) [Actions](#) [Projects](#) [Wiki](#) [Security](#) [Insights](#)

 **Want to contribute to greenelab/deep-review?**  
If you have a bug or an idea, read the [contributing guidelines](#) before opening an issue.

Filters 

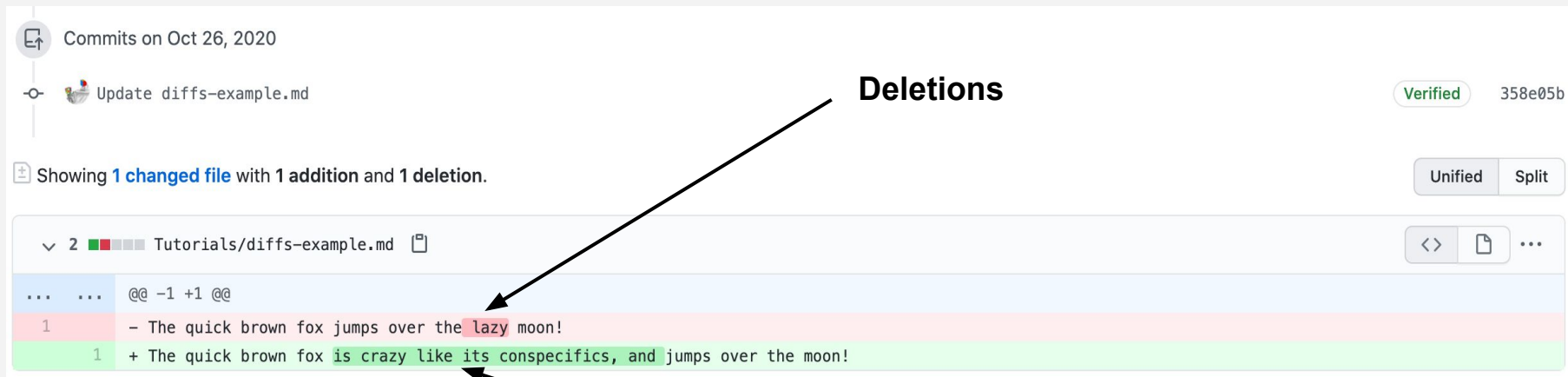
 Labels 18  Milestones 0 [New issue](#)

 <b>418 Open</b>  <b>228 Closed</b>	Author ▾	Label ▾	Projects ▾	Milestones ▾	Assignee ▾	Sort ▾
 <b>Add a Systematic Text-Mining Component to the Review?</b>  3	#1022 opened 2 days ago by swamidass					
 <b>Update for 2020?</b>  3	#1021 opened on Aug 25 by swamidass					
 <b>Human Protein Atlas (HPA) Cell Type Prediction using Deep Learning and estimating uncertainty</b>  2	#1017 opened on May 15 by birajaghoshal					
 <b>DeepArk: modeling cis-regulatory codes of model species with deep learning</b> <span>paper</span>	#1016 opened on Apr 28 by evancofer					
 <b>LISA: Towards Learned DNA Sequence Search</b> <span>paper</span>  1	#1015 opened on Apr 28 by evancofer					
 <b>Applications in sleep research</b>  2	#1013 opened on Apr 6 by SystemsResearch					



# Version Control and Rapid Prototyping

**Diffs:** line-oriented edit distance. Can use this to compare changes in a pull request, previous versions.



The screenshot displays a Git diff interface for a file named 'diffs-example.md'. At the top, it shows 'Commits on Oct 26, 2020' and a commit titled 'Update diffs-example.md' with a 'Verified' status and hash '358e05b'. Below this, it states 'Showing 1 changed file with 1 addition and 1 deletion.' The diff view shows two lines: a deletion (line 1) and an addition (line 1). The deletion line is highlighted in red and contains the text '- The quick brown fox jumps over the lazy moon!'. The addition line is highlighted in green and contains the text '+ The quick brown fox is crazy like its conspecifics, and jumps over the moon!'. Two arrows point to the changes: one labeled 'Deletions' points to the word 'lazy' in the red line, and another labeled 'Additions' points to the word 'is' in the green line.

Commits on Oct 26, 2020

Update diffs-example.md Verified 358e05b

Showing 1 changed file with 1 addition and 1 deletion.

2 Tutorials/diffs-example.md

@@ -1 +1 @@

1 - The quick brown fox jumps over the lazy moon!

1 + The quick brown fox is crazy like its conspecifics, and jumps over the moon!

Deletions

Additions

# Full-stack Community

<http://publish.illinois.edu/bradly-alicea/tag/full-stack-community/>

Community activities as functions:

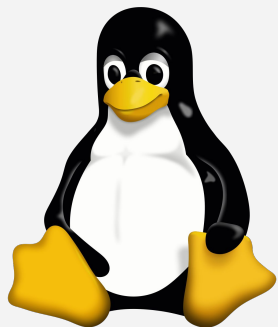
- right functions for implementation.
- functions to issues.

## Rokwire Community Full-stack Open-source

docs	→	Gdoc, ATOM.io
spreadsheets	→	GSheets, ?
meet	→	Jit.si, Zoom
notetaking	→	Notion
deploy	→	docker
hackathon	→	Jit.si, Zoom
repo	→	Github, OSF
wiki	→	Github, Notion
media	→	Wordpress, Twitter
playlist	→	YouTube



:



:



# Red Hat Family Tree

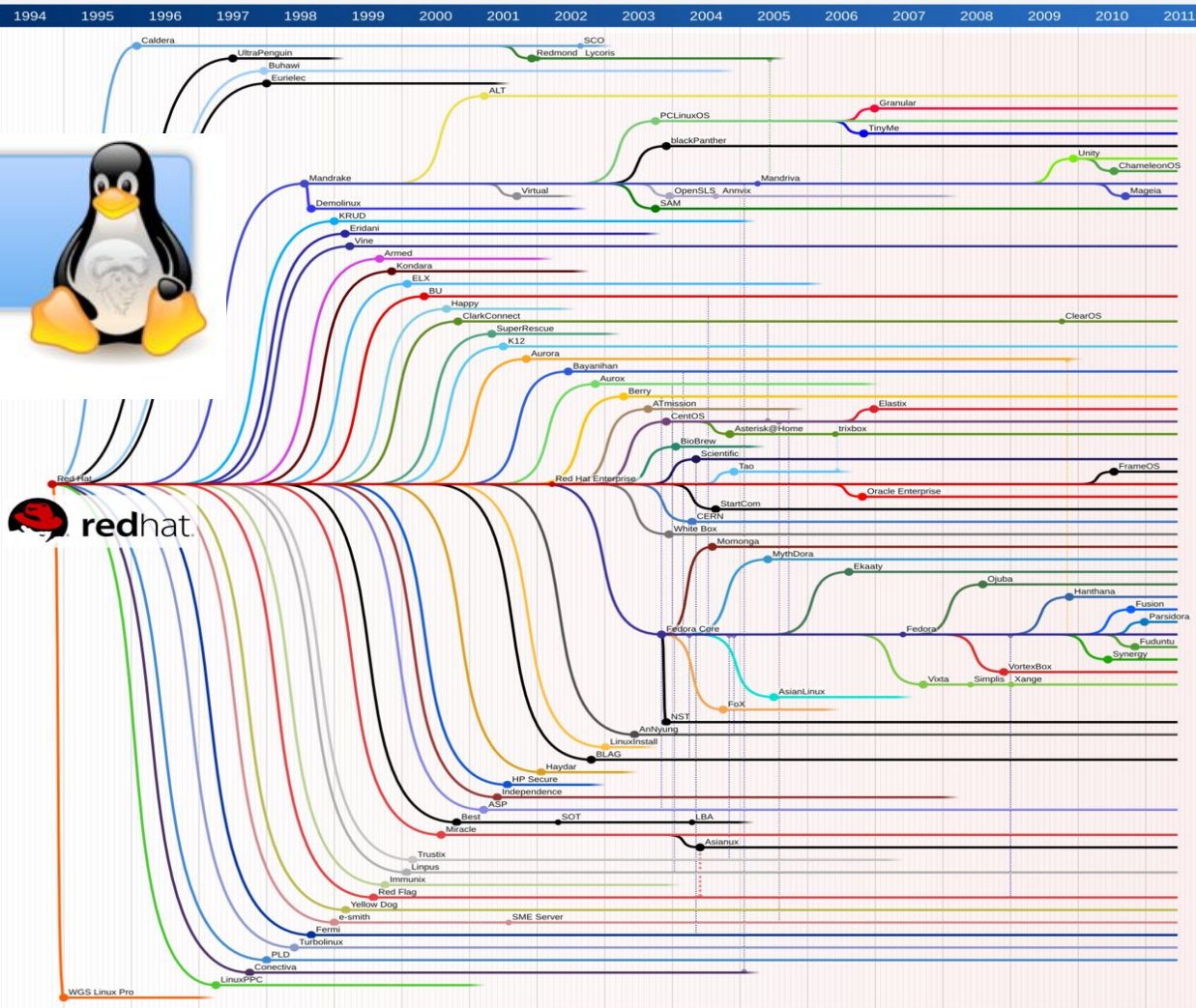
based on GLDT version 11.6

A. Lundqvist, D. Rodic - [futurist.se/gldt](http://futurist.se/gldt)

Published under the GNU Free Documentation License



- Influence, developer switching
- ..... Rebasing, substantial code flow, project overtaking
- ..... Developer & code sharing, project merging



# Experiential Education (Learning by Engaging)

**Data Privacy Standards:** working with PII (personal identifiable information).

**Mobile Architectures:** making something work as a mobile device.

**Special Topics (XR, Edge Computing):** engage in Rokwire-adjacent fields of study.

# Rokwire Community Docathon

Sprint and Community Work Session

July 23-25, 2021

Virtual Event

Friday (23)

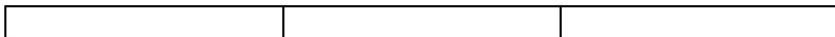
Saturday (24)

Sunday (25)

Introduction to  
documentation

Working synchronously  
and asynchronously

What was learned,  
completed, and next steps



Contact [balicea@illinois.edu](mailto:balicea@illinois.edu) for more information. This event will be hosted on Jitsi and Slack.

Sponsored by the Rokwire Community



Event sponsored by the  
Rokwire Community's  
Publication Interest Group

Promoting the creation of  
documentation and  
Rokwire-relevant publications.

- skills in technical writing and editing.
- promote technical awareness of the Rokwire architecture.

# Data Privacy and Stewardship

## Unconference and Workathon

Data Privacy and Stewardship is key to the success of privacy-aware mobile applications. To gain an appreciation for this relationship in the context of software development and ethical standards, we seek to bring together emerging scholars to work on select academic topics related to this theme, including:

Topical deep dives.

Review of technical approaches.

Creation of epistemological directories.



Contact [balicea@illinois.edu](mailto:balicea@illinois.edu) for more information. This event will be hosted on Jitsi and Discord.

**Sponsored by the Rokwire Community and Orthogonal Research and Education Laboratory**



## Coming this Fall!

Collaboration with other research groups via sponsored events.

Promoting education in adjacent skills and concepts


- open licensing.
- data privacy.

# **Why do we have Open-source Communities?**

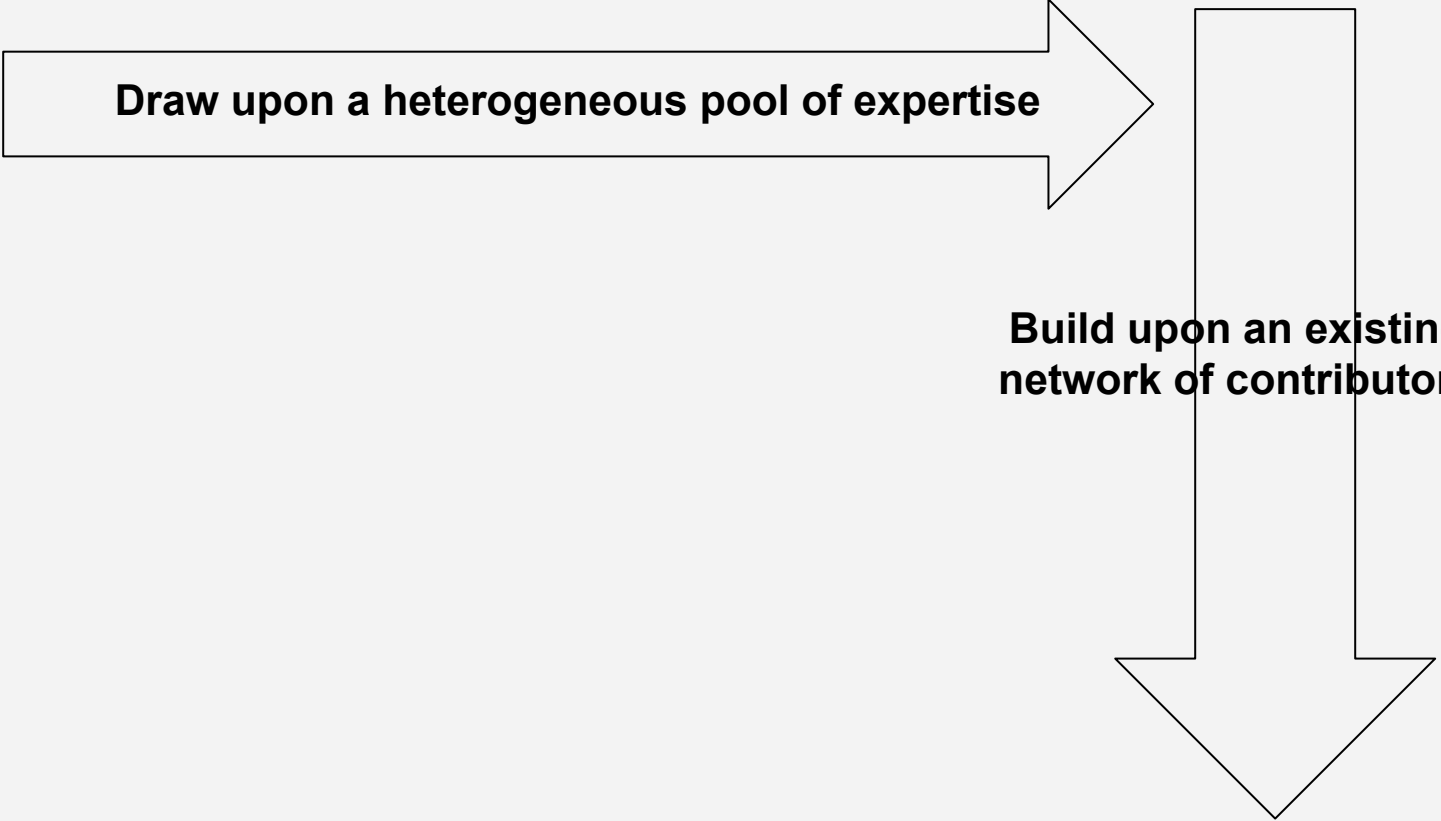


**Squaring  
the Circle**





**Draw upon a heterogeneous pool of expertise**



**Draw upon a heterogeneous pool of expertise**

**Build upon an existing  
network of contributors**

```
graph TD; A[Draw upon a heterogeneous pool of expertise] --> B[Build upon an existing network of contributors]; B --> C[Means to facilitate education and informal learning]; C --> A;
```

**Draw upon a heterogeneous pool of expertise**

**Build upon an existing  
network of contributors**

**Means to facilitate education and informal learning**

**Draw upon a heterogeneous pool of expertise**

**Build upon an existing  
network of contributors**

**Means to facilitate education and informal learning**

**Recruit collaborators  
for future projects**

# Social Capital

Trust + Positive Social Attention + Innovation + Reciprocity + Altruism

## TRUST

Each contributor will abide by the expectations of the community (social contract).

# Social Capital

Trust + Positive Social Attention + Innovation + Reciprocity + Altruism

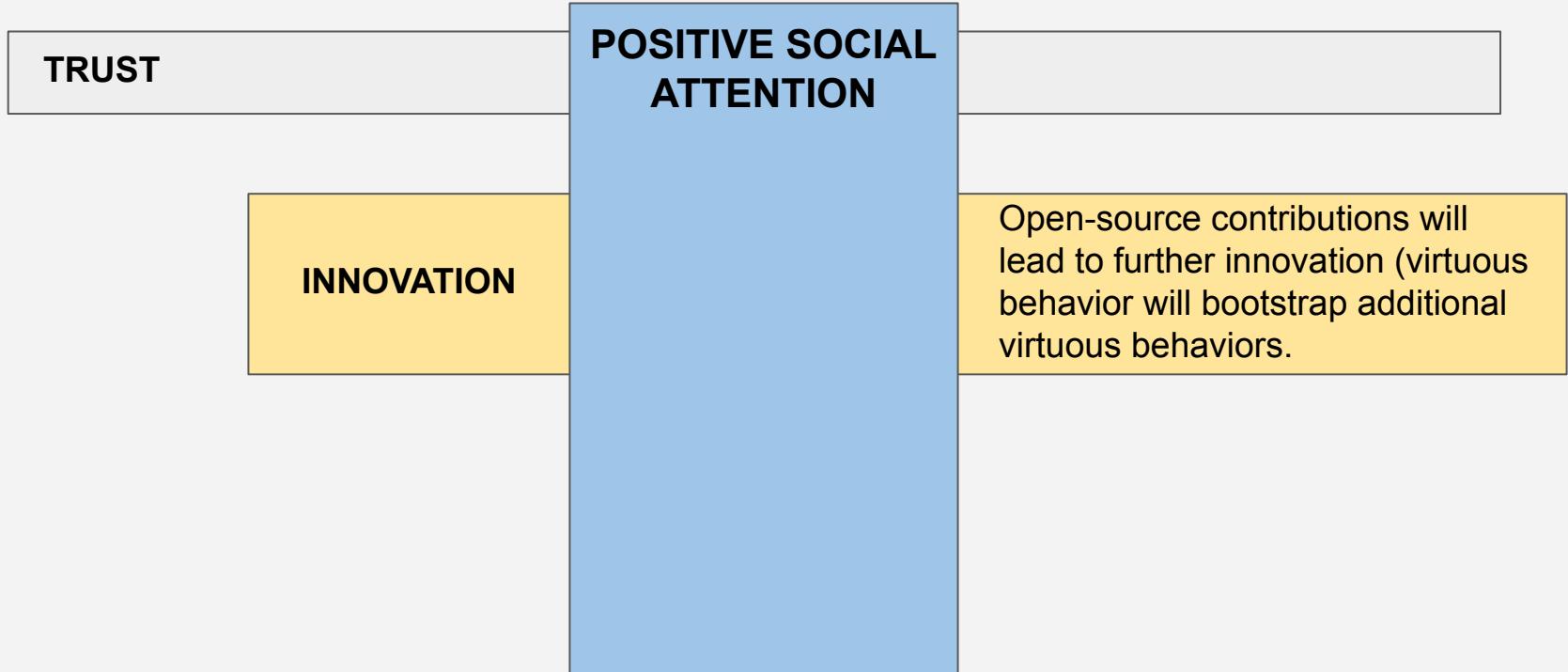
**TRUST**

**POSITIVE SOCIAL  
ATTENTION**

A person's work will be seen by many other people, benefits of approval will be gained using a reputation mechanism (likes, shares, forks).

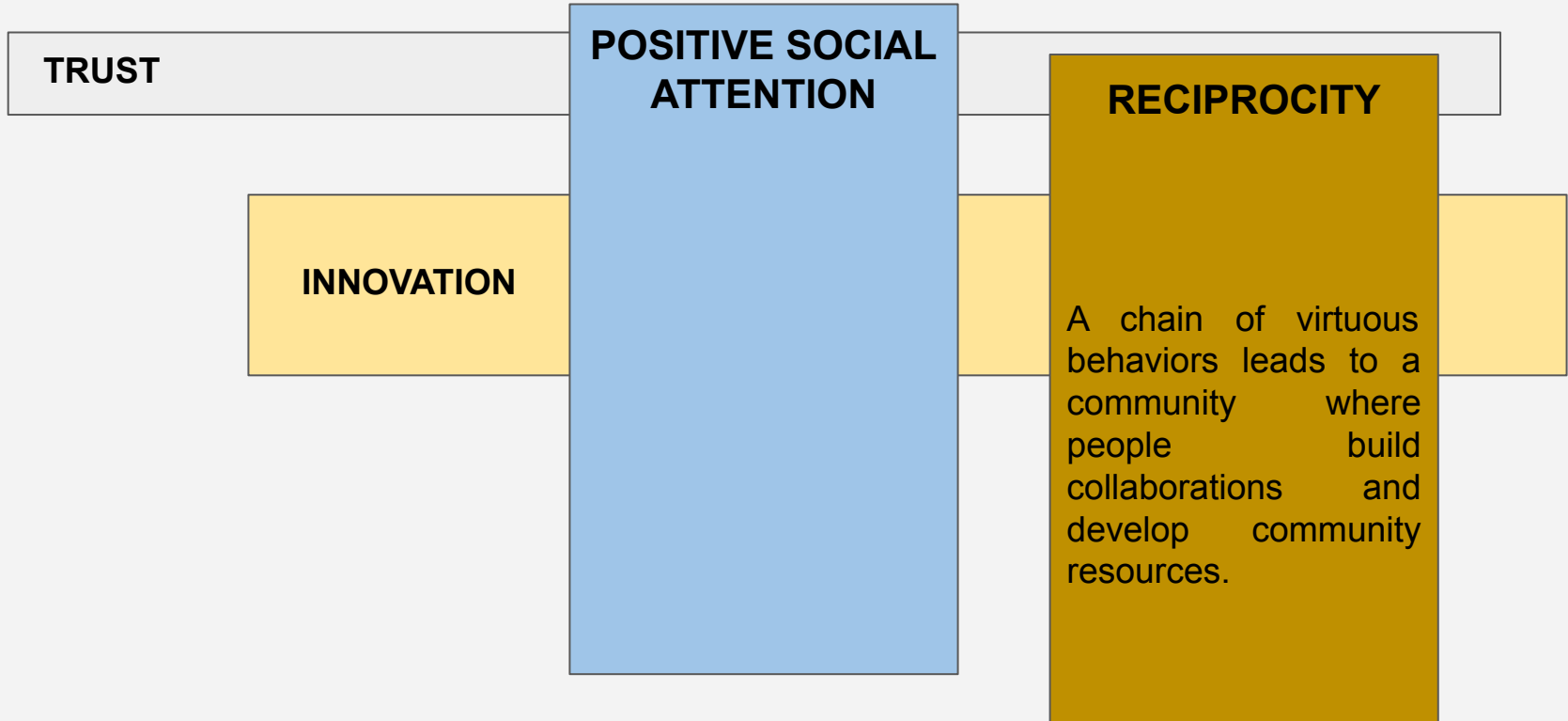
# Social Capital

Trust + Positive Social Attention + Innovation + Reciprocity + Altruism



# Social Capital

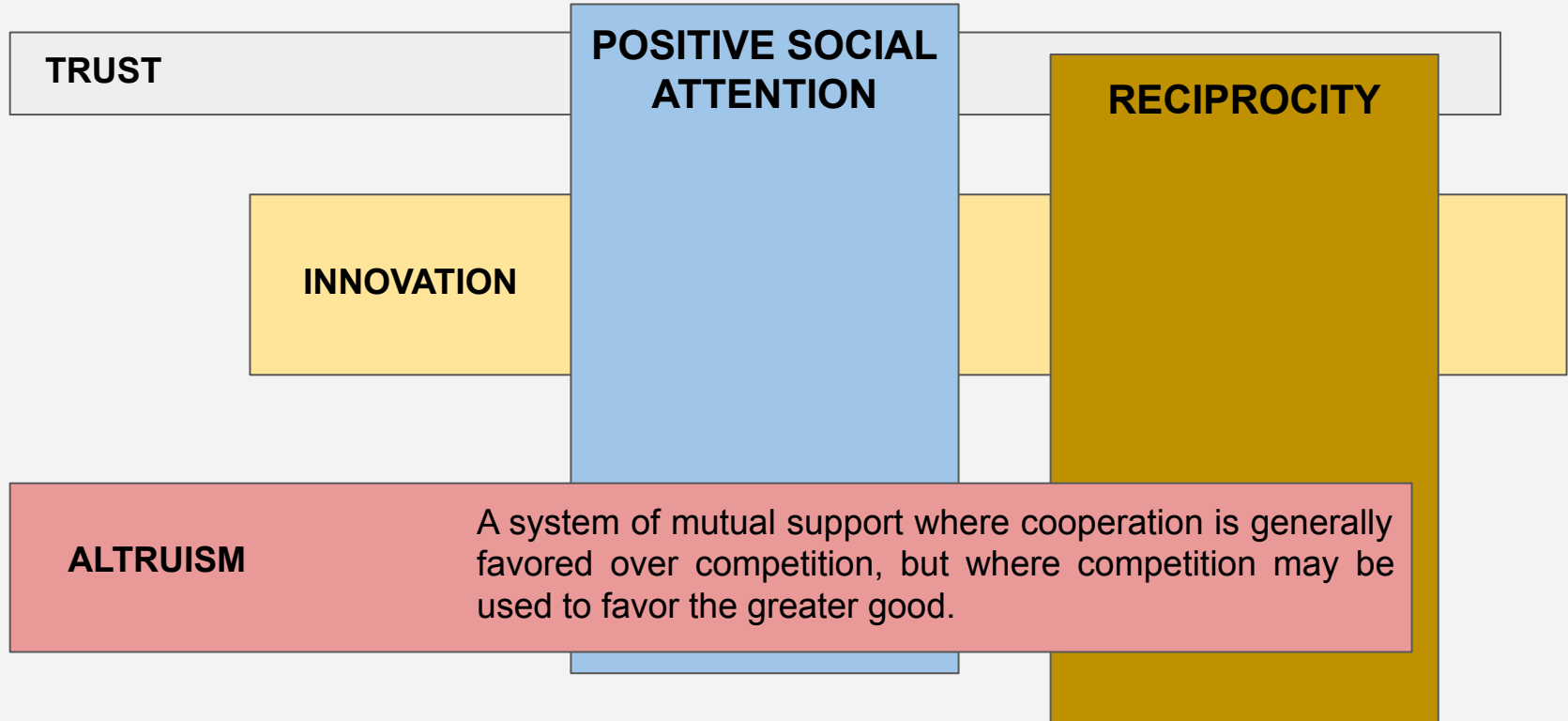
Trust + Positive Social Attention + Innovation + Reciprocity + Altruism





# Social Capital

Trust + Positive Social Attention + Innovation + Reciprocity + Altruism



# **The Hidden Benefit of Giving Back to Open Source Software**

**Harvard Business Review, September 5 (2018)**

Open-source projects can be thought of as a public good.

Companies can benefit from hiring workers with experience in open-source organizations.

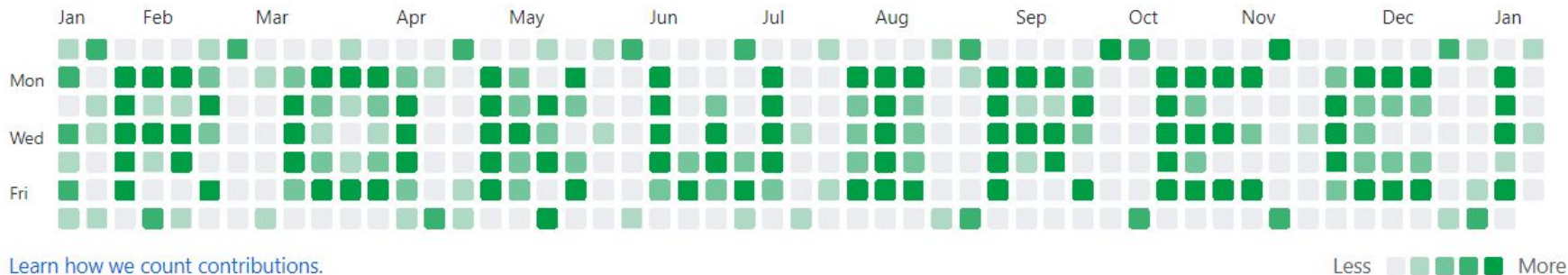
- open-source contributions outside firm benefits individuals (skill building, access to technological systems).
- companies can benefit from hiring open-source contributors (can build upon, utilize value of open-source tools).

# Debian Social Contract (1997)

Ensure that software remains open and free as it gets forked, scales up:

- gift improvements to the community that made the operating system possible.
- transparency in methods, software, and organization.
- staying focused on the users and the software that started the phenomenon.

Forms the basis for the Open Source Definition ([https://en.wikipedia.org/wiki/The\\_Open\\_Source\\_Definition](https://en.wikipedia.org/wiki/The_Open_Source_Definition))



Github Repository:

<http://github.com/rokwire>

Rokwire Community Website:

<http://rokwirecommunity.web.illinois.edu>

Rokwire Community Wiki:

<https://github.com/rokwire/rokwire-community/wiki>

**Rokwire Community**  
@RokwireC

Check out our languages! We speak Go, Python, Dart, Objective-C, and Java. Do you? Find out more at our Github organization: [github.com/rokwire](https://github.com/rokwire)

**Rokwire**

<https://rokwire.org/> [rokwire@illinois.edu](mailto:rokwire@illinois.edu)

**Top languages**

- Go Python Dart
- Objective-C Java

11:56 AM · Dec 11, 2020 · Twitter Web App