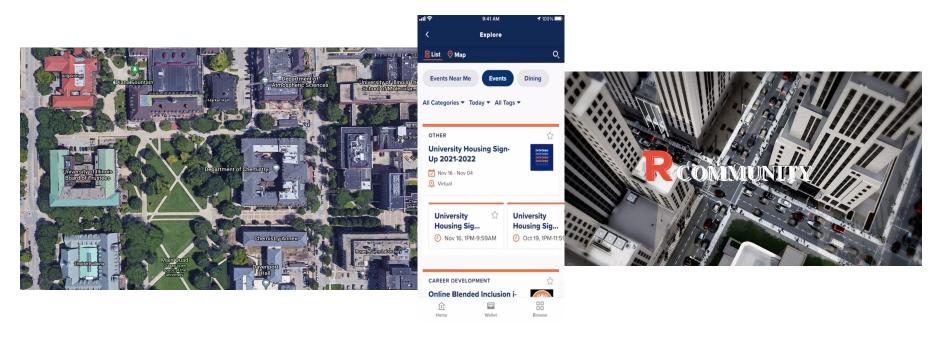
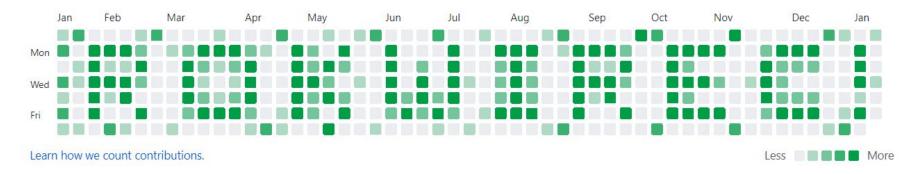
# Rokwire Community and the Rokwire Open-source Platform



Bradly Alicea, Isaac Galvan, and the Rokwire team

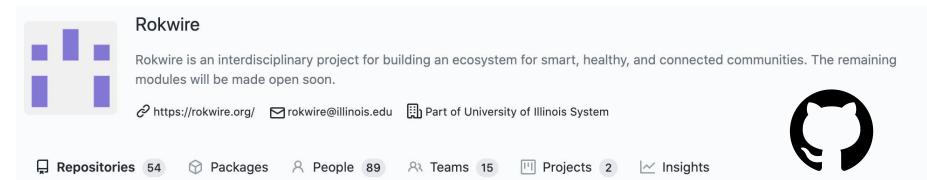


## Github Repository: <a href="http://github.com/rokwire">http://github.com/rokwire</a>

Rokwire Community Website: <a href="http://rokwirecommunity.web.illinois.e">http://rokwirecommunity.web.illinois.e</a> du

Rokwire Community Wiki: <a href="https://github.com/rokwire/rokwire-community/wiki">https://github.com/rokwire/rokwire-community/wiki</a>





## Code and documentation contributions





http://github.com/rokwire

### **Programming Tutorials**

### **Rokwire Community Wiki**



Bradly Alicea edited this page 23 days ago · 4 revisions

#### Github (contributing code)

How to issue a pull request (Rokwire Community) link

#### Front-end (Apps)

#### **Flutter**

Write your first Flutter App (Flutter) link
Beginner's Guide to Cross-platform Apps (Educative) link
How to learn Flutter (FreeCodeCamp) link

#### Dart

Dart programming Tutorial (YouTube) link Learn Dart (Educative) link

#### Back-end (building block)

#### Golang

Getting Started with Go link
Getting Started with Golang (Educative) link
Go By Example link

#### Python

Hello, Python (Kaggle) link Beginner's Python Tutorial (Wikibooks) link



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| Find a Page  |
| Home   |
| Apache license   |
| Bug Reports, Accessibility Reports, and New Feature Requests |
| Community Events   |
| Contributor License Agreement (CLA)                          |
| <b>Event Categories</b>                                      |
| <b>Existing and Proposed Building Blocks</b>                 |
| <b>External Contributor Guidelines</b>                       |
| Google Summer of Code  |
| Governance   |
| How do I Get On Board?                                       |
| How do I Get Started?  |
| How does Rokwire work?                                       |
| How to Develop Capabilities                                  |

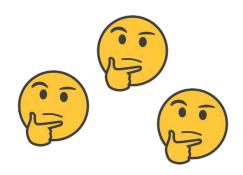
### **Rokwire Community Onboarding**

Web: <a href="http://rokwirecommunity.web.illinois.edu/onboarding.html">http://rokwirecommunity.web.illinois.edu/onboarding.html</a>

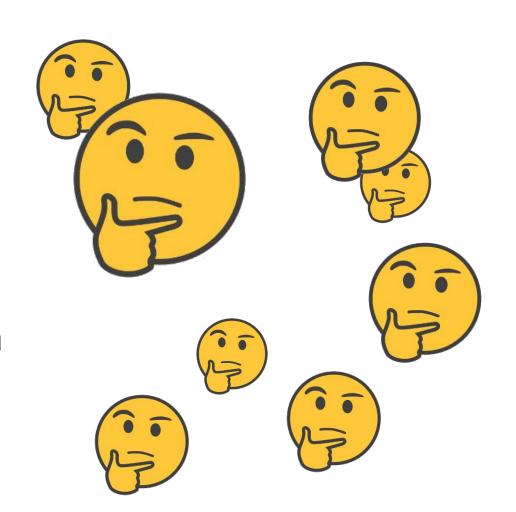
See our tutorial videos, employment opportunities, and check out your fellow contributor's achievements!

**Substack:** <a href="https://rokwirecommunity.substack.com/p/onboarding-guide-to-rokwire-community">https://rokwirecommunity.substack.com/p/onboarding-guide-to-rokwire-community</a>

Get up to speed on our contributor ethos and the types of contribution you can make to the community.



Why do we have a Community?



## Why should I contribute?

#### Professional advancement

- Be part of an organization (put work in portfolio, on CV).
- Build up expertise and network with same, other specialties.

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### Social Capital

build resources used by others, attribution and academic citation.

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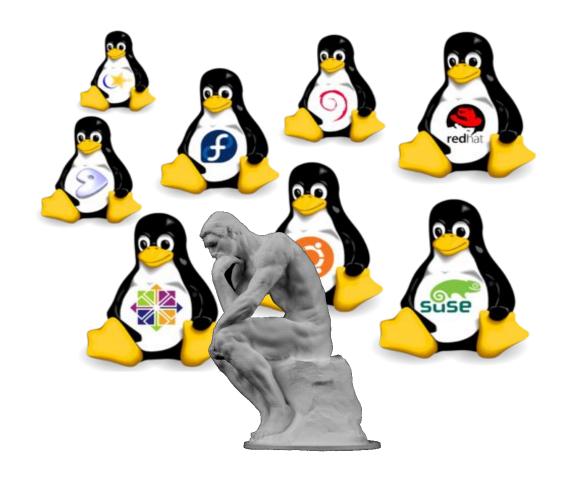
• build resources used by others, attribution and academic citation.

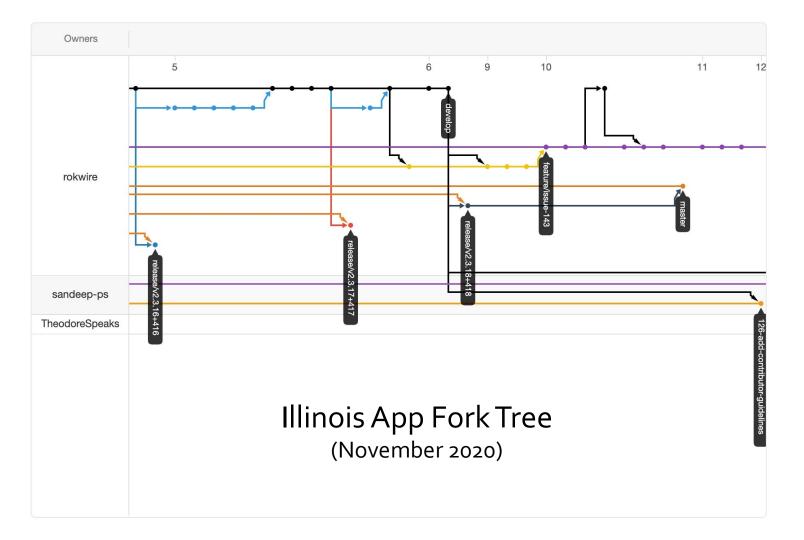
#### Collective Maintenance

• make an initial contribution, others will collectively edit and update (pooled expertise).

## Developing an "ethos" of open-source:

Productivity, copying and sharing (forking), idea genealogy (program history), and the social implications (capital and contracts).





### **Rokwire Platform Apps**



## Tutorial on YouTube

### Safer Illinois

Illinois App

Safer Illinois: manage the COVID response at University of Illinois Urbana-Champaign







### **Rokwire Platform Apps**

### Safer Badgers

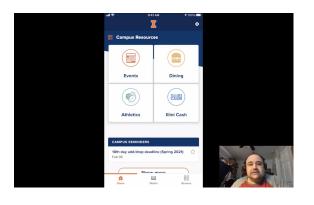
Illinois App

Safer Badgers: manage the COVID response at University of Wisconsin Madison





### **Rokwire Platform Apps**



Tutorial on YouTube

Safer Illinois

Illinois App

Illinois: manage campus resource at University of Illinois Urbana-Champaign



### **Apps: Presentation Layer**

<u>Flutter toolkit</u> builds native mobile apps from a single codebase.

#### Features include:

Hot reload to support rapid prototyping and development.

Many contributed UI elements

Near native performance

### Safer Illinois and Illinois app, built on Rokwire

https://github.com/rokwire/safer-illinois-app

https://github.com/rokwire/illinois-app



Objective-C 12.8%

Java 11.4%

Other 0.3%



Objective-C 8.2%

**Java** 7.3%

Other 0.3%

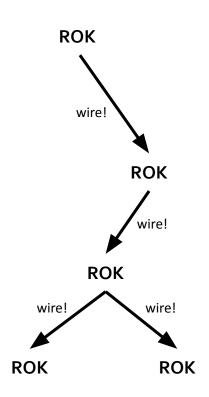
### Set of data connectors

**Building blocks** 

API available for building blocks

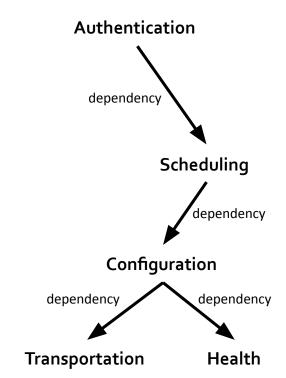
Data Connectors: connect objects, places, things in the world with computer code.

Capabilities



Rokwire is a series of "roks" (building blocks) connected by a series of wires (dependencies).

From "roks" and "wires" to parts of a community.



Set of data connectors

### **Building blocks**

API available for building blocks

Health Building Block: connect health resources and availability information using a mobile phone

Capabilities

Set of data connectors

**Building blocks** 

## API available for building blocks

Building Block API: build your own set of connectors! Possibilities include utilities, classroom education, and parks.

Capabilities

Set of data connectors

**Building blocks** 

API available for building blocks

Capabilities: building block instances that are allow for functionality in app.

### **Capabilities**

Set of data connectors

**Building blocks** 

API available for building blocks

Talents: customized capabilities for app building blocks.

Capabilities

### **Building Blocks**

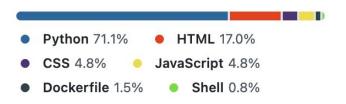
https://github.com/rokwire/health-building-block

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

Secure transfer of test result data from McKinley. Also serves access rules. testing location information, etc.

App Config, Authentication, Events, Profile, and Logging Building Blocks, and Authentication Middleware Library.





### **Supporting Services**

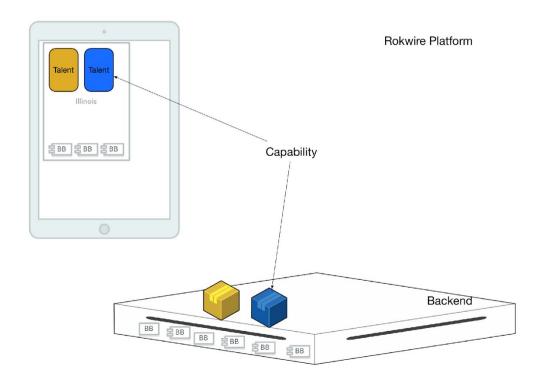
Amazon Web Services

MongoDB

**Firebase** 

Campus services

- Shibboleth: single-sign on and authentication
- i-Card
- Student Affairs dining, laundry, etc
- o calendars for events and academic dates
- various Athletics interfaces



Some of the Rokwire platform building blocks that have been identified so far are: Authentication, Profile, Events, Notifications, Logging, and Configuration.

There are also building blocks within the App side of Rokwire. These provide functionality to multiple talents. Identified app building blocks are: Authentication, logging, notification

### How do I Start Programming an App?

 Come up with an idea (our community is engaged with many domains of expertise.

Learn how Rokwire works, and what are its limitations.

"What is a Building Block" and "Rokwire Dictionary" on the Rokwire Community Wiki:

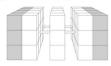
https://github.com/rokwire/rokwire-community/wiki

#### What is a Building Block?

Bradly Alicea edited this page now - 12 revisions

#### What is a Building Block?

Rokwire consists of building blocks, which provides basic functionality that any large community would require. A building block is equivalent to a knowledge domain. Building blocks are interoperable with other building blocks, and collectively contribute to an Application. Check out our list of current and proposed building blocks here.



Building blocks can form a hierarchy nested within other building blocks, and are typically written in the Go language. Technically, building blocks exist separately on the App and on the backend, but are linked by capabilities.



A good first step to creating a Rokwire application is to create a building block. Generally, building block has the following characteristics:

- . considers implementation and usage, and evolves to exploit technology and standards.
- · may be assembled from other building blocks.
- · is re-usable and replaceable, and well specified.
- . should be able to be upgraded without requiring other building blocks to update.
- · must be made open source.



Your only limitations are as follows:

- · changes to existing building blocks will need to be approved by Rokwire source governance team.
- · all building blocks must exist in every instance of the Rokwire platform.

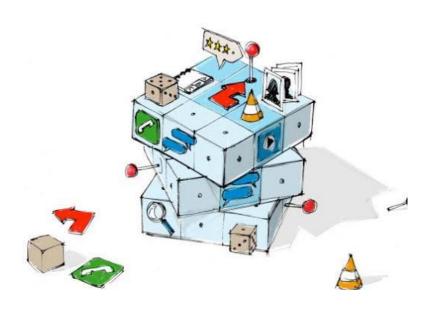
How to get experimenting and developing with Rokwire Building Blocks

Check out our API! link

More information about Building Blocks

Existing and Proposed Building Blocks, Rokwire Dictionary

### **User Interaction Design**



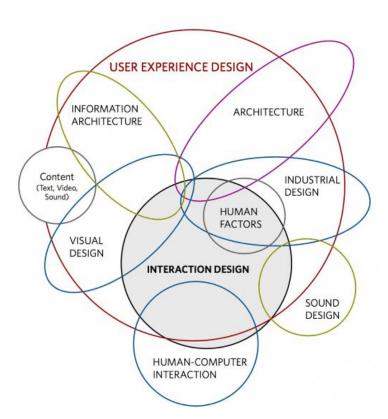
#hci in the Rokwire Community

41:

Slack: <a href="https://launchpass.com/rokwirecommunity/">https://launchpass.com/rokwirecommunity/</a>



Discord: <a href="https://launchpass.com/rokwire-community">https://launchpass.com/rokwire-community</a>



### **Smart Healthy Communities Lab (SHC)**

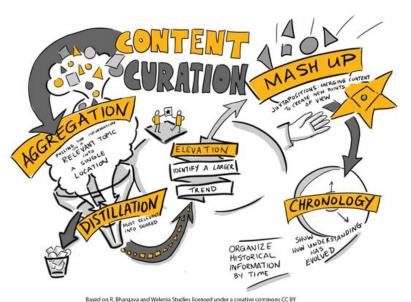


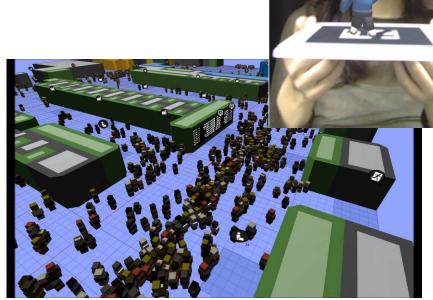
Promote Wellness
Access course catalog and schedule
Content integration from Illini Media/New
Student Guide
Increase open source contributions
Refocus metric collection for Illinois app

Promote Illini ID and digital wallet
Expand events participant and host capabilities
App notifications building block
Secure private computing and research
Connect to personal calendar
Improve Dining experience

### **Multi-tech Applications**

**CLOCKWISE FROM TOP:** Augmented Reality (layers of context-awareness), Crowd (Agent-based) Simulations, Social Media Content Curation (finding relevant content).





## Hiring: Open-source Contributor (Developer), Rokwire Mobile Apps

- Successful candidates will be ready and eager to learn about our mobile applications and supporting infrastructure
- Contribute to the Illinois App, Safer Illinois, and other Rokwire open-source projects
- Document and troubleshoot issues in coordination with the DevOps team
- Perform functional and performance testing
- Perform service operations tasks and assist in release preparation
- Develop prototypes and proofs-of-concept with designers and stakeholders

https://go.illinois.edu/apply-illinois-app-developer



Github Onboarding Guide

Web

Newsletter

Blog

Wiki



Website: <a href="http://rokwirecommunity.web.illinois.edu">http://rokwirecommunity.web.illinois.edu</a>

Github: <a href="http://www.github.com/rokwire">http://www.github.com/rokwire</a>

Community Calls (Jit.si) and Public Events (gather.town) coming soon!