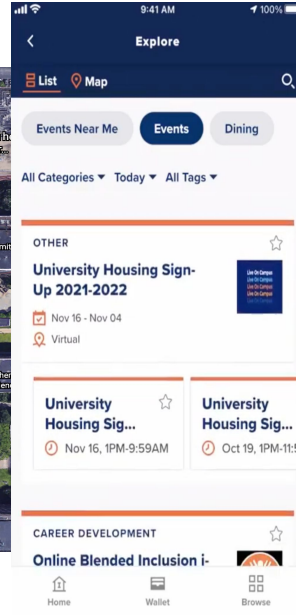
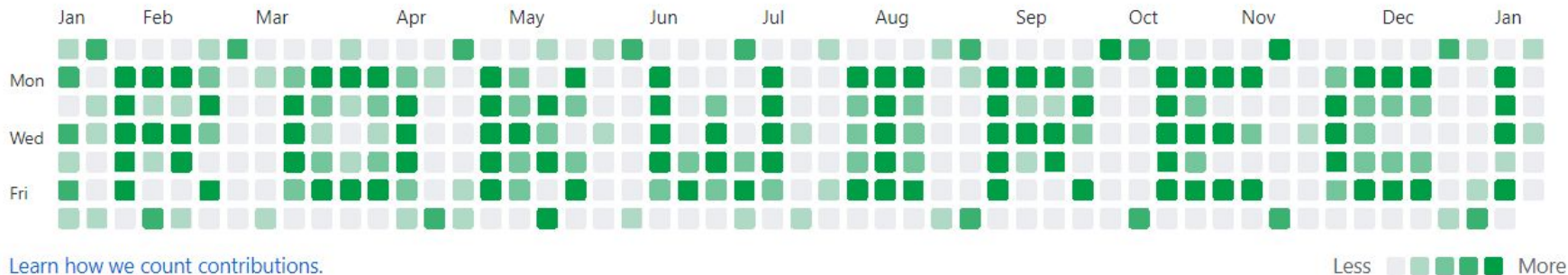


# Rokwire Community and the Rokwire Open-source Platform



Bradly Alicea, Isaac Galvan, and the Rokwire team



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](http://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



## 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](#)

## Code and documentation contributions

### Top languages

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



<http://github.com/rokwire>

## 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](#)

**Learn specialized skills!**

▼ Pages 33

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\(CLA\)](#)[Event Categories](#)[Existing and Proposed Building  
Blocks](#)[External Contributor Guidelines](#)[Google Summer of Code](#)[Governance](#)[How do I Get On Board?](#)[How do I Get Started?](#)[How does Rokwire work?](#)[How to Develop Capabilities](#)

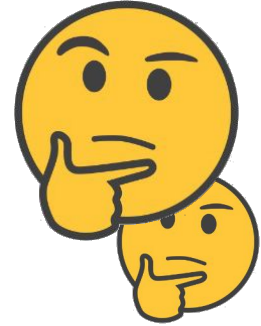
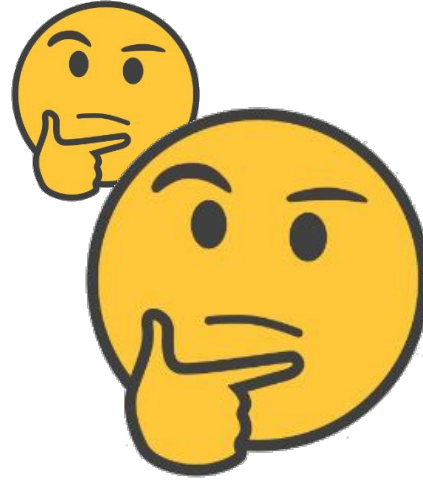
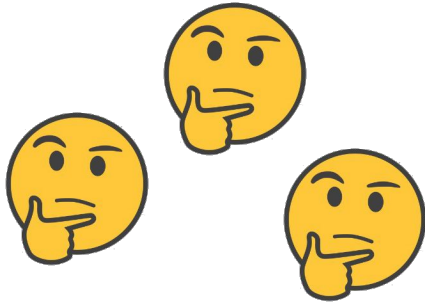
# Rokwire Community Onboarding

**Web:** <http://rokwirecommunity.web.illinois.edu/onboarding.html>

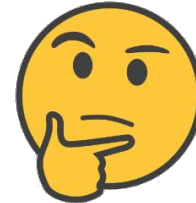
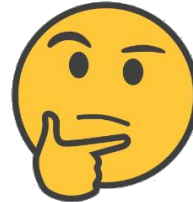
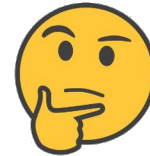
See our tutorial videos, employment opportunities, and check out your fellow contributor's achievements!

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

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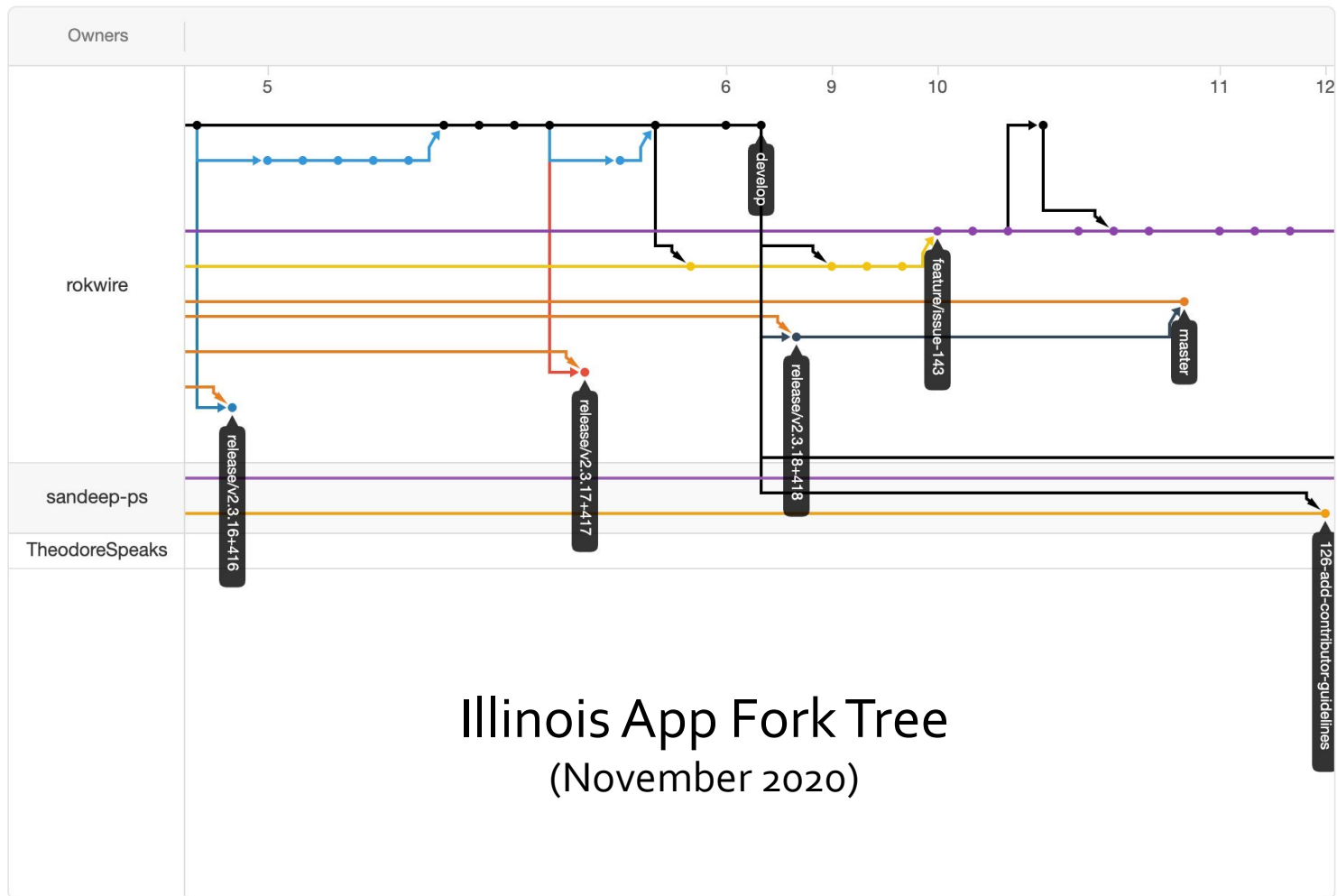
- build resources used by others, attribution and academic citation.

## Collective Maintenance

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

A collection of Linux mascot penguins, each wearing a different logo on its chest. The logos include a yellow star, a blue 'f' (Facebook), a red swirl, a red '3' (Red Hat), a purple swirl, an orange swirl, a green 'suse' logo, and a colorful geometric pattern. In the foreground, a grey statue of 'The Thinker' is positioned, leaning forward with its chin resting on its hand, symbolizing deep thought or contemplation.

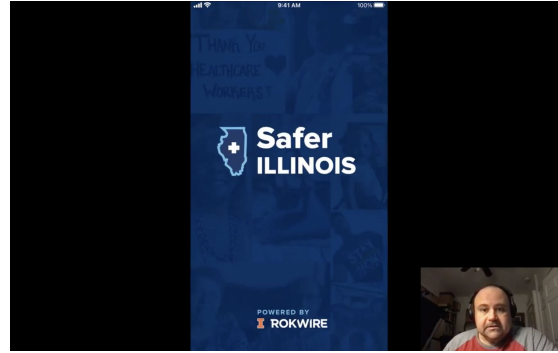
A collection of Linux mascot penguins, each wearing a different logo on its chest. The logos include a yellow star, a blue 'f' (Facebook), a red swirl, a red '3' (Red Hat), a purple swirl, an orange swirl, a green 'suse' logo, and a colorful geometric pattern. In the foreground, a grey statue of 'The Thinker' is positioned, leaning forward with its chin resting on its hand, symbolizing deep thought or contemplation.



# Rokwire Platform Apps

## Safer Illinois

## Illinois App



**Tutorial on  
YouTube**

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



# Rokwire Platform Apps

## Safer Badgers

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

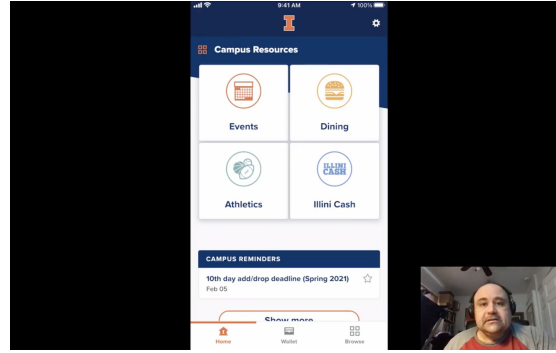
Illinois App



# Rokwire Platform Apps

Safer Illinois

## Illinois App



**Tutorial on  
YouTube**

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



# Apps: Presentation Layer

[Flutter toolkit](#) 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>



● Dart 75.5%    ● Objective-C 12.8%  
● Java 11.4%    ● Other 0.3%

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



● Dart 84.2%    ● Objective-C 8.2%  
● Java 7.3%    ● Other 0.3%



# Rokwire Platform

## Set of data connectors

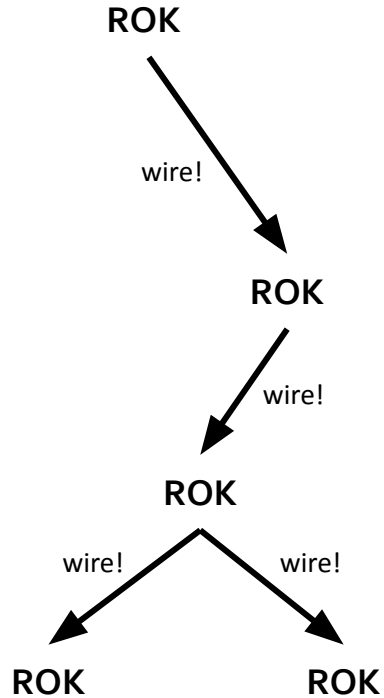
Building blocks

API available for building  
blocks

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

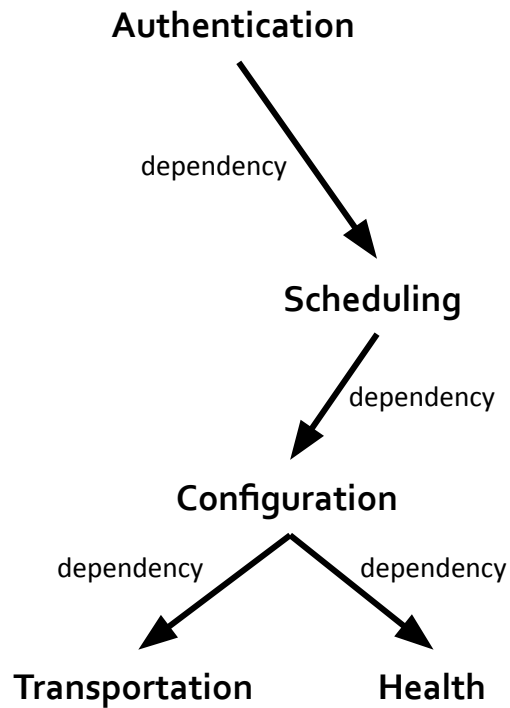
Capabilities

Talents



**Rokwire is a series of “roks” (building blocks) connected by a series of wires (dependencies).**

From “roks” and “wires” to parts of a community.



# Rokwire Platform

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

Talents

# Rokwire Platform

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

Talents

# Rokwire Platform

Set of data connectors

Building blocks

API available for building blocks

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

**Capabilities**

Talents

# Rokwire Platform

Set of data connectors

Building blocks

API available for building  
blocks

Talents: customized capabilities for app  
building blocks.

Capabilities

**Talents**

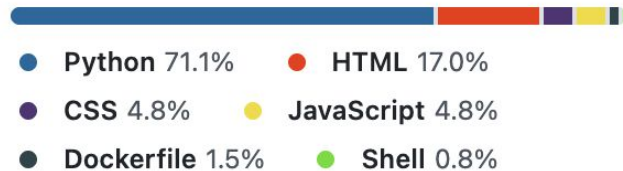
# Building Blocks

<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

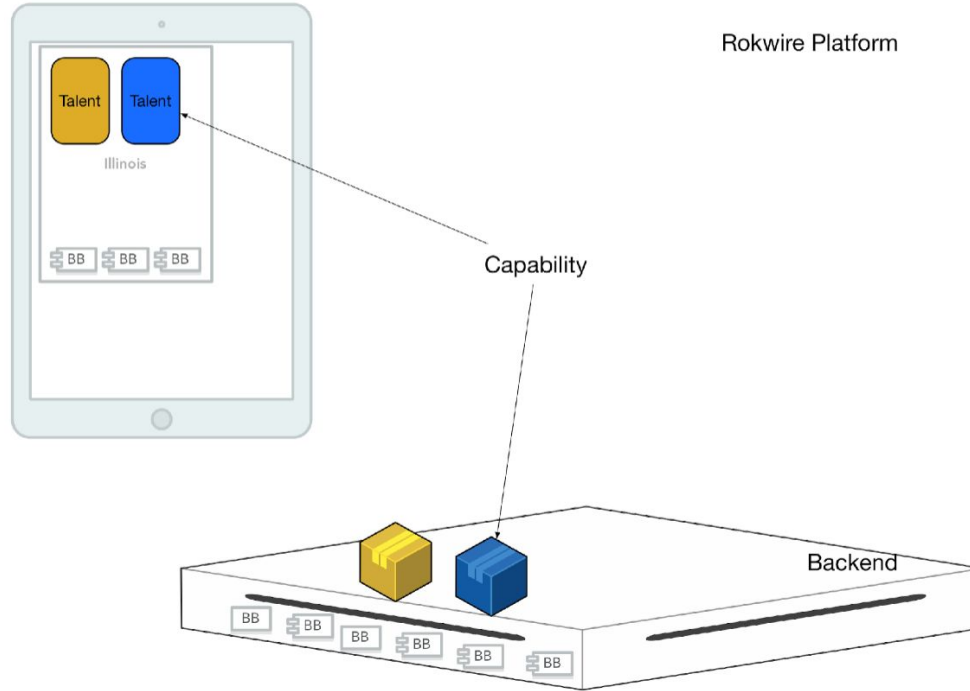
Amazon Web Services

MongoDB

Firebase

Campus services

- Shibboleth: single-sign on and authentication
- i-Card
- Student Affairs - dining, laundry, etc
- 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?

1. Come up with an idea (our community is engaged with many domains of expertise.
2. Learn how Rokwire works, and what are its limitations.

*“What is a Building Block” and “Rokwire Dictionary” on the Rokwire Community Wiki:*

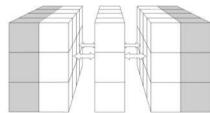
<https://github.com/rokwire/rokwire-community/wiki>

## 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.



## Golang

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.

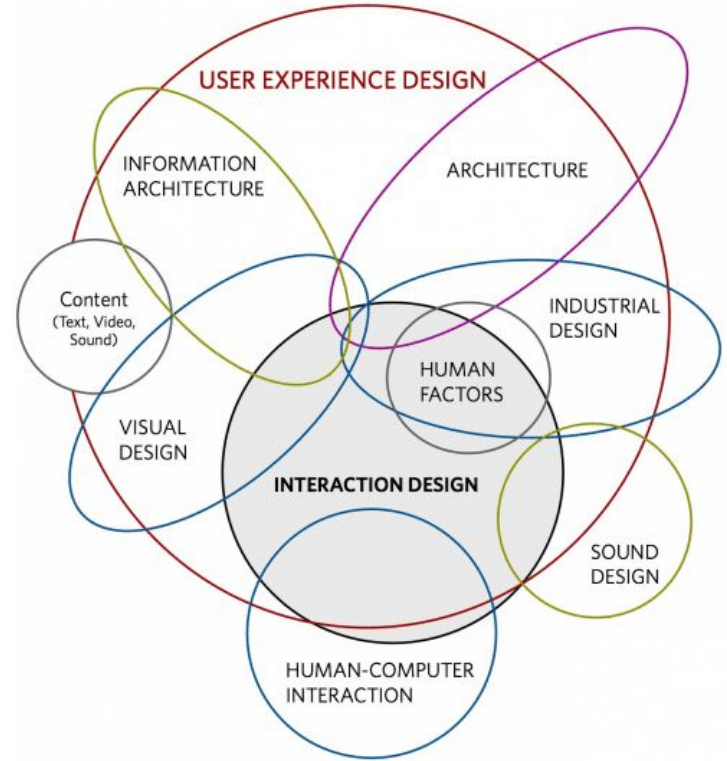
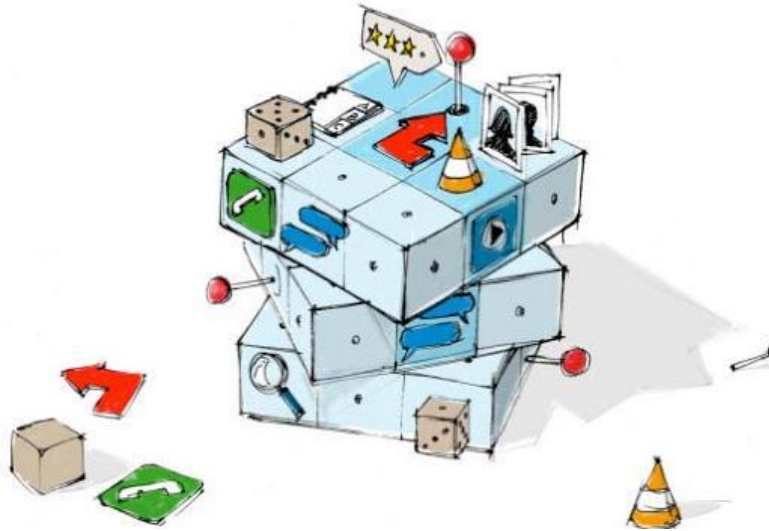
How to get experimenting and developing with Rokwire Building Blocks

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



Slack: <https://launchpass.com/rokwirecommunity/>



Discord: <https://launchpass.com/rokwire-community>

# 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

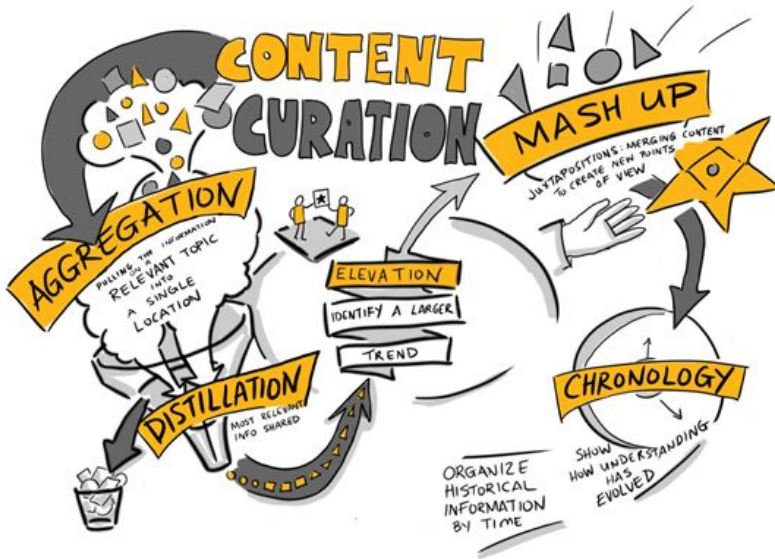
Secure private computing and research

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).



Based on R. Bhargava and Welenia Studies licensed under a creative commons CC BY



# 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**

# **R COMMUNITY**

## **Welcome to the Rokwire Community!**

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

Github: <http://www.github.com/rokwire>

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