

NACCU INNOVATIVE TECHNOLOGY AWARD NOMINATION

UNIVERSITY OF ILLINOIS URBANA- CHAMPAIGN

SMART, HEALTHY COMMUNITIES INITIATIVE | ROKWIRE



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DESCRIBE THE CONCEPT OF WHAT IS ATTEMPTED/UNDERTAKEN AND WHAT MAKES IT INNOVATIVE

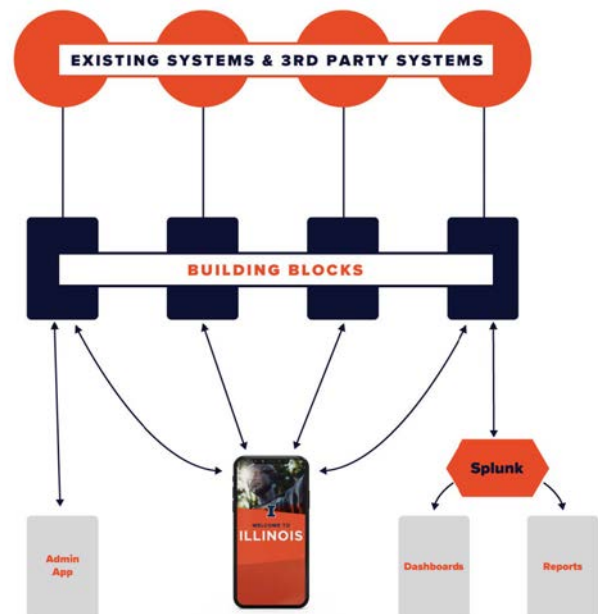
In 2018, the Smart, Healthy Communities Initiative (SHCI) at the University of Illinois Urbana-Champaign formed and created a free, open-source mobile app platform called Rokwire that consolidates multiple data streams and systems into one mobile app for students, staff, and others.

Rokwire is available for free to universities, non-profits, governmental agencies, businesses, and individuals alike. It is the first of its kind, allowing institutions to collaborate in a way more concrete than ever before.

Using Rokwire, any institution can create a comprehensive campus app that includes services such as virtual ID cards, mobile credentials, dining locations and menus, campus events, bus schedules, class schedules, campus wayfinding, and access to wellness resources. See the appendix for a comprehensive list.

The following are examples of integrations and features that have already been developed:

- TouchNet (meal plan and campus cash balances)
- CSC Laundry (washer/dryer availability, time remaining, report a machine problem)
- HID (mobile credentials) – in pilot
- CBORD (dining menus and nutrition information)
- Banner (student info, class schedules)
- Fusion (campus recreation events)
- Medicat (medical appointments)
- StarRez (housing)
- Twitter/X
- Archibus (wayfinding and building amenities)
- Sidearm sports (athletics)
- A digital campus ID QR code to present for package pickup and event attendance
- Event registration and follow-up surveys



DETAIL THE STEPS TAKEN TO DETERMINE A SOLUTION BASED ON THE INNOVATION BEING UNDERTAKEN

The university began the process by forming the Smart, Healthy Communities Initiative and creating a multi-disciplinary team from across campus. Our approach to identifying new features is multi-faceted and highly collaborative.

Using the human-centered design method, we've conducted hundreds of student interviews with individual users and small groups to understand how they interact with the app, what could be improved, and what new features they'd like to see.

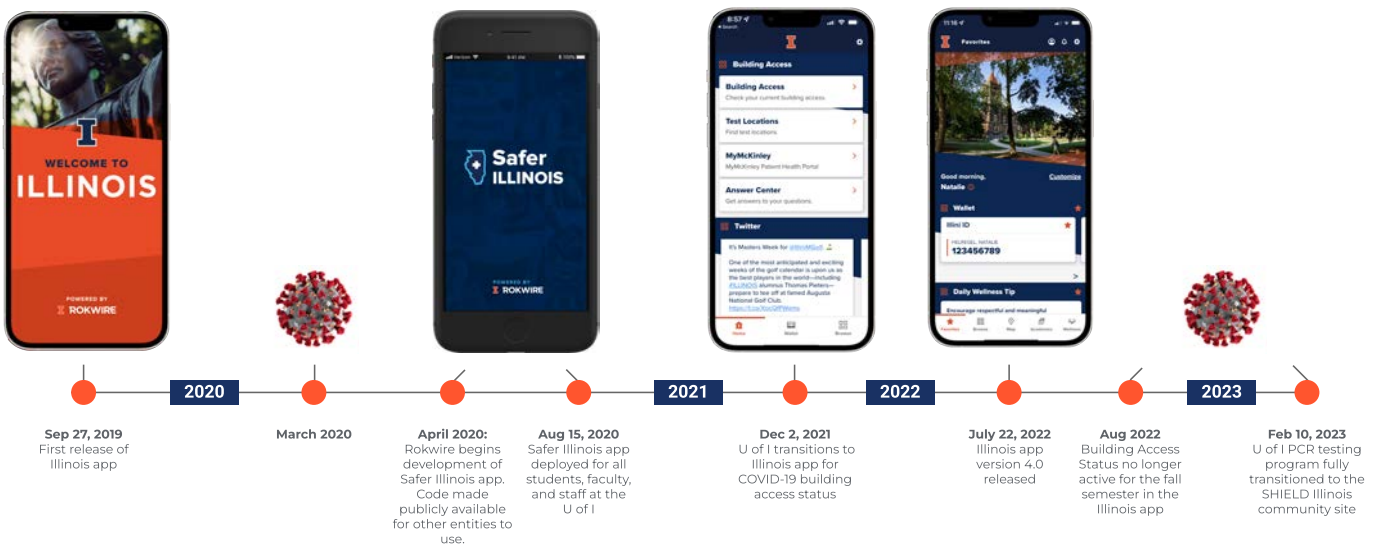
We also regularly consult with academic leaders, including deans, institute and center directors, department heads, and faculty, to gather their insights on what could enhance the app's utility.

Additionally, we hold monthly meetings with the Wellness Committee, a group of professionals from various campus units who focus on health and wellness. To ensure we're capturing user feedback directly, we've built a feature within the app that allows users to report bugs, seek assistance, and suggest new features. Members of the Technology Services Help Desk are also core members of our team and serve as a valuable conduit for relaying user feature



requests. We consult with developers of other campus-created apps to learn about the features they're developing.

A privacy-by-design approach has been in place from day one. The user manages their data via the Illinois app's Privacy Center. The user chooses a privacy level of one through five to control the information they want to share about themselves and how personalized of an app experience they would like.



PROVIDE INFORMATION ABOUT THE EVALUATION OF THE SOLUTION INCLUDING MEASURED RESULTS

In addition to our flagship Illinois app, the Rokwire platform has been used to develop various apps. See the appendix for a list.

App Use Metrics: A Snapshot of Engagement

As illustrated in Table 1, the Illinois app has garnered over 100,000 first-time downloads across both Apple and Google app stores since its launch in October 2019. Our internal analytics indicate that we have more than 50,000 active users for Fall 2023, with students constituting the majority.

Engagement Metrics	Data Points
Total First-Time Downloads (2019-2023)	>100,00
Estimated Active Users (Fall 2023)	>50,000
Student Users 2022-2023 School Year (Aug–May)	46,600
Student Users (Fall 2023, Aug 16–Sep 19)	40,630
Non-Student Users (Fall 2023, Aug 16–Sep 19)	3,300

Table 1: Illinois App User Engagement Metrics

Student Engagement by Academic Year

Students who authenticate themselves using their NetID gain access to a suite of secure services. These services include their digital Illini ID, Bus Pass, Groups, Course Schedules, and LMS Assignments, among other services. Notice in Table 2 the balanced distribution of student users across academic years, with each cohort averaging around 6,500 users.

An estimated 8,833 students use the app at anonymous privacy settings (levels 1-3). These users self-identify as students via the app's "Who Are You" screen. Because they are anonymous, their academic year classification remains uncertain due to the absence of i-card data. It's worth noting that users can identify themselves in multiple roles—such as student, employee, or athletics fan. We also recognize that some non-students, like parents, may choose the student role to access the full range of student services.

Student Category	Number of Students
Freshmen	6,653
Sophomores	6,768
Juniors	6,410
Seniors	6,503
Graduate Students	5,463
Total Students Classified by i-card	31,797
Unclassified (Privacy Levels 1-3)	8,833
Total Student Users	40,630

Table 2: Classification of Student Users by Academic Year (Aug 16–Sep 22, 2023)



"WHEN I FIRST MOVED HERE, I DOWNLOADED THE APP. I SAID, 'OH GREAT, THIS WILL MAKE EVERYTHING SO MUCH EASIER!'"

— Sreelakshmi, UIUC student, 4/2023





How do people use the Illinois app?

We examined user activity during the initial weeks of the Fall 2023 semester, spanning from August 16 to September 18. During this period, 13 services within the app emerged as frequently used on a weekly basis. This is detailed in Table 3.

The Dining feature, which offers daily menus, nutritional information, and operating hours for all dining locations, is predominantly used by students with meal plans—mainly freshmen and sophomores residing in University Housing. This same demographic frequently checks their Meal Plan Balance and utilizes the Laundry feature to monitor machine availability.

Other frequently used features facilitate campus navigation, including the Campus Map, Bus Pass, Bus Stops and Destinations, and the digital Illini ID.

While most app services maintain consistent usage throughout the year, some exhibit seasonal fluctuations. For instance, the My Courses feature, which provides students with their course schedules and classroom locations, was accessed 2,439 times in the week leading up to the start of classes on August 21, 2023. Usage declined thereafter, likely because students had familiarized themselves with their classroom locations.

Added in Summer 2022 in response to student requests, the course schedules and bus route features have been particularly well-received. New first-year students have lauded the Illinois app as a "lifesaver" for its comprehensive services.

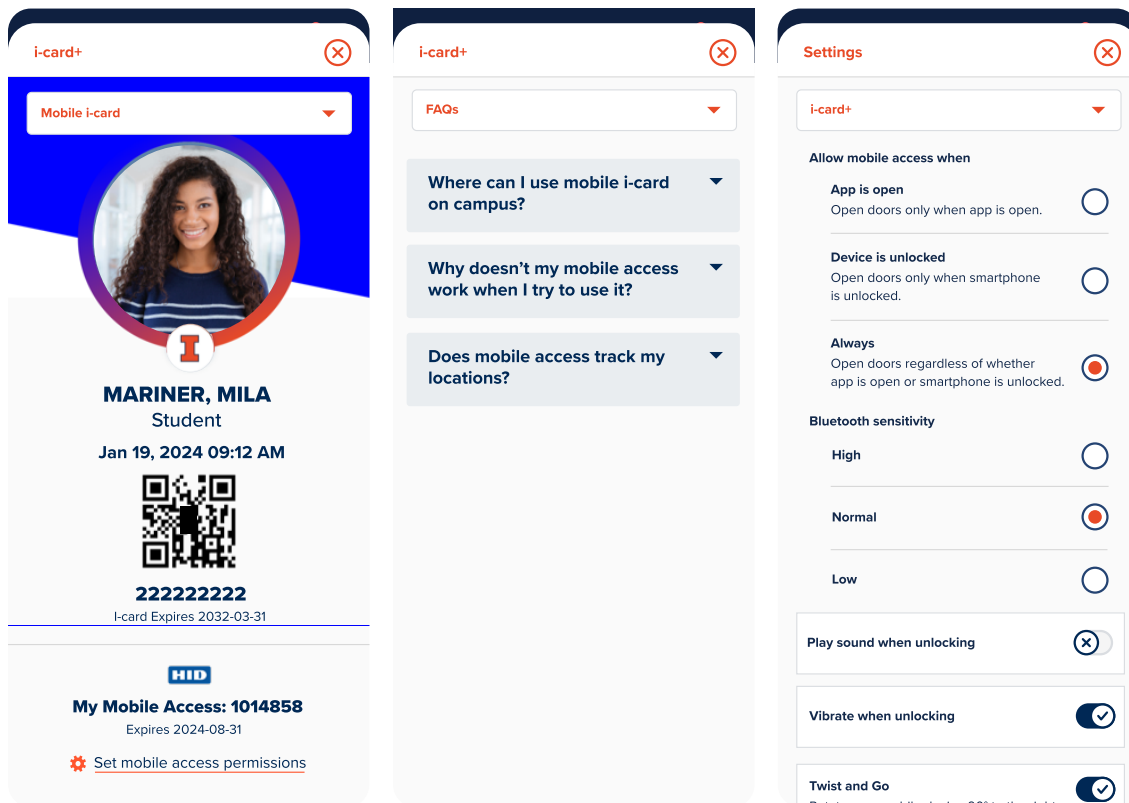
Service Function	Interactions per week (avg)
Dining Menus and Schedules	9,204
Wellness Resources	8,917
Illini ID	8,917
Map	5,496
Meal Plan Balance	4,486
MTD Bus Stops & Destinations	3,311
Bus Pass	3,010
Laundry	2,659
Groups	1,977
Illini Cash	1,333
Events	1,053
Athletics	831
My Courses	737

Table 3: Weekly Usage of Top Features (Aug 16–Sep 19, 2023)

"THE BEST PART IS THAT THERE ARE A LOT OF THINGS JUST IN ONE PLACE"

— Rishhi, UIUC student, 4/2023





Mobile credential prototype being developed for the Illinois app to pilot with University Housing

DESCRIBE THE NEXT STEPS AND CONCLUSION AS WELL AS LESSONS LEARNED

The Rokwire platform and the Illinois app are continually evolving. New services are regularly added in response to requests from students and departments, ensuring that the app remains aligned with the evolving needs and goals of our diverse campus community.

This semester, we will pilot mobile credentials in University Housing facilities and field-test the new events registration and attendance features. We are also working on an advanced search feature utilizing the GPT-4 large language model that will allow users to ask questions related to academic and social life on campus and provide answers based on university websites and other affiliated, trusted websites.

We continue to receive a multitude of project proposals from various campus stakeholders.

A select few of these projects transition from concept to design and development each year, based on their feasibility and alignment with our core strategic objectives of advancing scholarship, discovery, and innovation, promoting student success, enhancing teaching and learning, and creating societal impact. Key to our success are strong partnerships with campus administrators and faculty and the incorporation of the student voice.

Because this is an open-source platform, the Rokwire ecosystem will grow based on contributions from various entities. Each adopter can choose to implement only the features they want and make contributions to the platform as appropriate. We continue to look for opportunities to collaborate with vendors and other institutions.

Thank you for considering the Smart, Healthy Communities Initiative at the University of Illinois Urbana-Champaign for the NACCU Innovative Technology Award.



APPENDIXES

App. A: List of All Features in the Illinois App

Top Navigation

- Profile
- Notification
- Settings

Bottom Navigation

- Favorites
- Browse
- Map
- Academics
- Wellness
- Illinois Assistant

Top Navigation > Profile

- My Profile
- My App Privacy Settings
- Who Are You

Top Navigation > Notifications

- All Notifications
- Unread Notifications
- My Notification Preferences

Top Navigation > Settings

- Sign In/Sign Out
- My Interests
- My Food Filter
- My Sports Teams
- Customize Favorites
- My Assessments
- Add to My Device's Calendar
- MyMcKinley Appointments

Bottom Navigation > Browse

- Academics
 - Appointments
 - Campus Reminders
 - Due Date Catalog
 - Skills Self-Evaluation
 - To-Do List
- App Help
 - FAQs
 - Feedback
 - Review
 - Video Tutorials

- Appointments

- Athletics
 - Big 10 Events
 - My Big 10 Events
 - My Big 10 News
 - My Game Day
- News
- Campus Guide
 - Campus Guide Highlights
 - Campus Safety Resources
 - Complete Campus Guide
 - My Campus Guide

- Dining

- My Dining Locations
- Residence Hall Dining
- Residence Hall Dining Open Now

- Events

- All Events
- My Events

- Feeds

- Daily Illini
- X/Twitter
- WPGU 107.1 FM

- Groups

- All Groups
- My Groups

- Laundry

- Laundry
- My Laundry

- MTD Buses

- All Bus Stops
- My Bus Stops
- My Destinations

- Notifications

- All Notifications
- Unread Notifications

- Polls

- Create a Poll
- View Polls

- Recent

- Recently Viewed

- Research at Illinois

- My Research Participation
- Open Research Projects

- Wallet

- Add Illini Cash
- Bus Pass
- Illini ID
- Illini Cash
- Meal Plan

- Wellness

- Daily Wellness Tip
- Illinois Health Screener
- Mental Health Resources
- MyMcKinley Appointments Resources
- Rings

Bottom Navigation > Map

- Campus Buildings
- All Events
- Residence Hall Dining
- Laundry
- My Courses
- Find a Therapist
- MyMcKinley In-Person Appointments
- Bus Stops
- My Destinations

Bottom Navigation > Academics

- My Courses
- Speakers & Seminars
- Appointments
- To-Do List
- Skills Self-Evaluation
- Due Date Catalog
- myIllini

Bottom Navigation > Wellness

- Daily Wellness Tip
- Daily Wellness Rings
- MyMcKinley Appointments
- Illinois Health Screener
- Healthy Illini Podcast
- Wellness Resources
- Mental Health Resources
- I'm Struggling



App. B: Beyond the Illinois app, the Rokwire platform has been used for the development of various apps, including:

Memgnosis: a research and clinical app used with people who have suffered Traumatic Brain Injury (Neal Cohen PI)

Personalized Nutrition

Initiative App: a tool to predict when a person is eating a meal using machine learning models trained on passive smartphone sensor data in collaboration with the University of Illinois Personalized Nutrition Initiative, Informatics, Kinesiology, and Community Health

COVID-19 Apps:

Safer Illinois: now retired, supported the delivery of over 3 million test results to members of our campus community

Safer Community: customized variants of Safer Illinois have been deployed at dozens of institutions, including universities, high schools, K-12 schools, and large museums

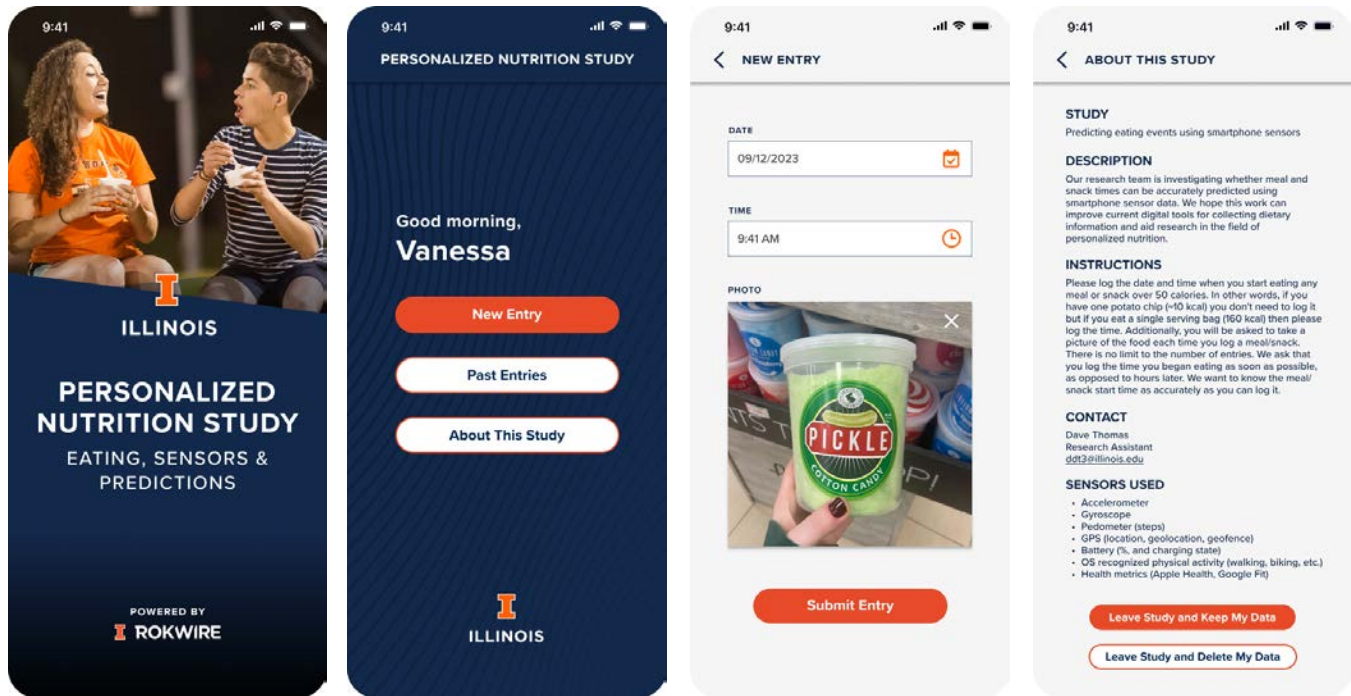
- University of Wisconsin Safer Badgers
- University of Nebraska
- Vanderbilt University
- American University
- Gallaudet University
- Catholic University of America
- Champaign County schools
- Smithsonian Institution

Courtside App: design and development of a youth development and mentoring app to mitigate community violence in collaboration with the University of Illinois Center for Social and Behavioral Sciences and the City of Champaign

Tapestry app: Mayo Clinic data collection and engagement with Mayo patients diagnosed with Fatty Liver Disease

Vogue Runway app for Conde Nast

On Call Connect for OSF Healthcare



Personalized Nutrition Initiative mobile application prototypes being developed to see if we can predict when a person is eating a meal.