

# Social Science Research and the Rokwire Platform

11/17/2021



Peter Ondish, PhD  
Research Scientist, CSBS

# I ROKWIRE

- Open-source platform for mobile devices
- To enable the smart, healthy communities of tomorrow
- Licensed for free to any entity



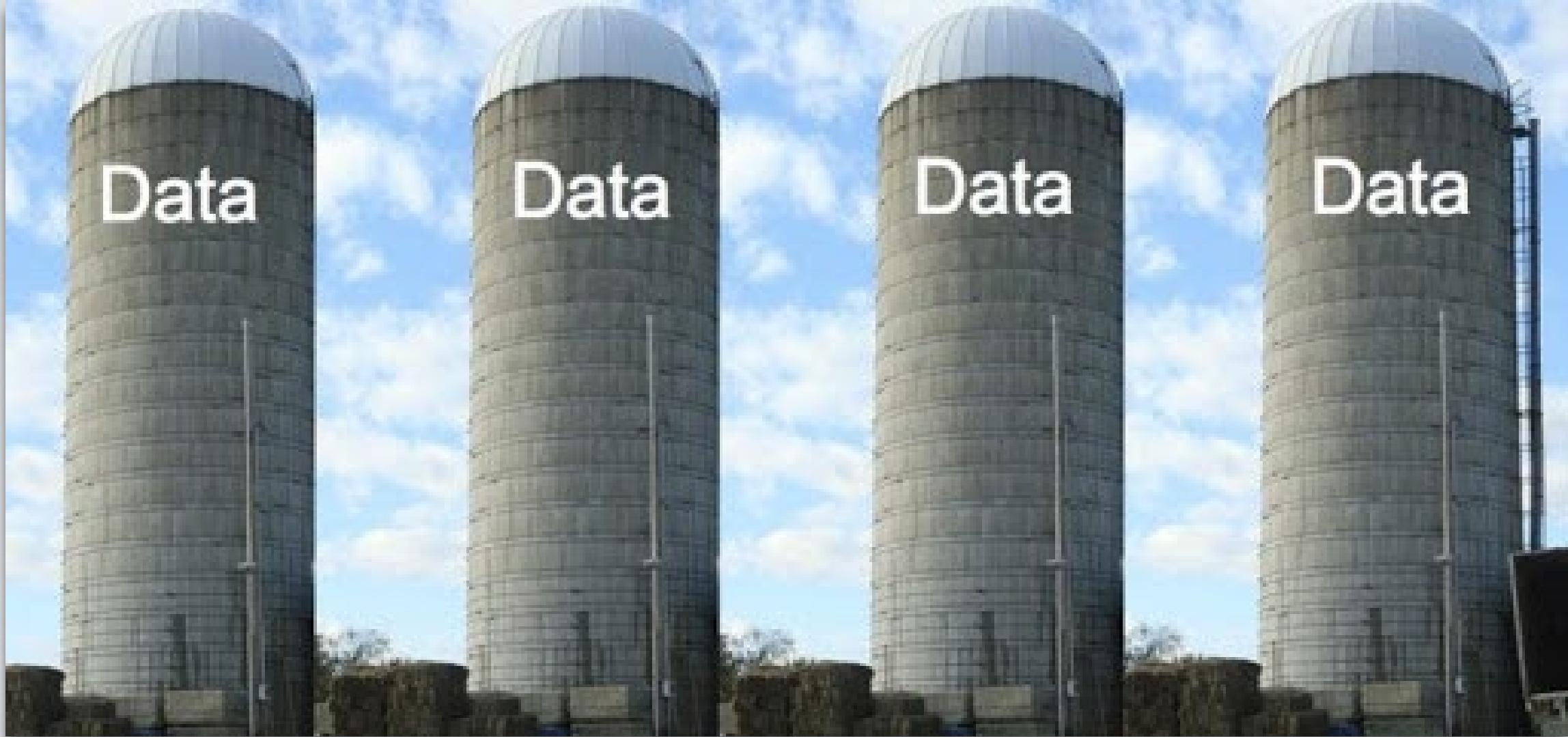


## The Promise of the Information Age



# EVERYTHING SILOED

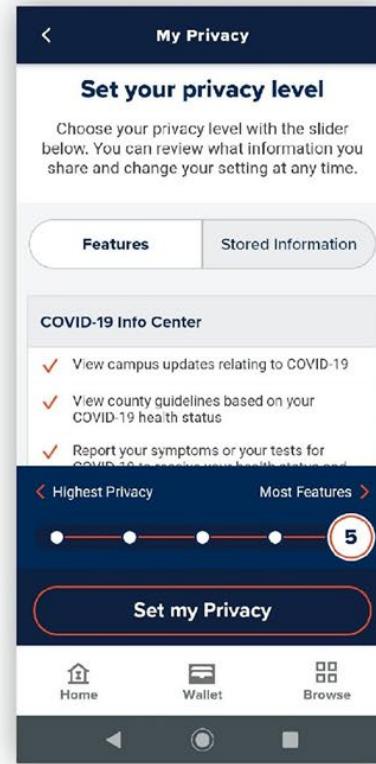
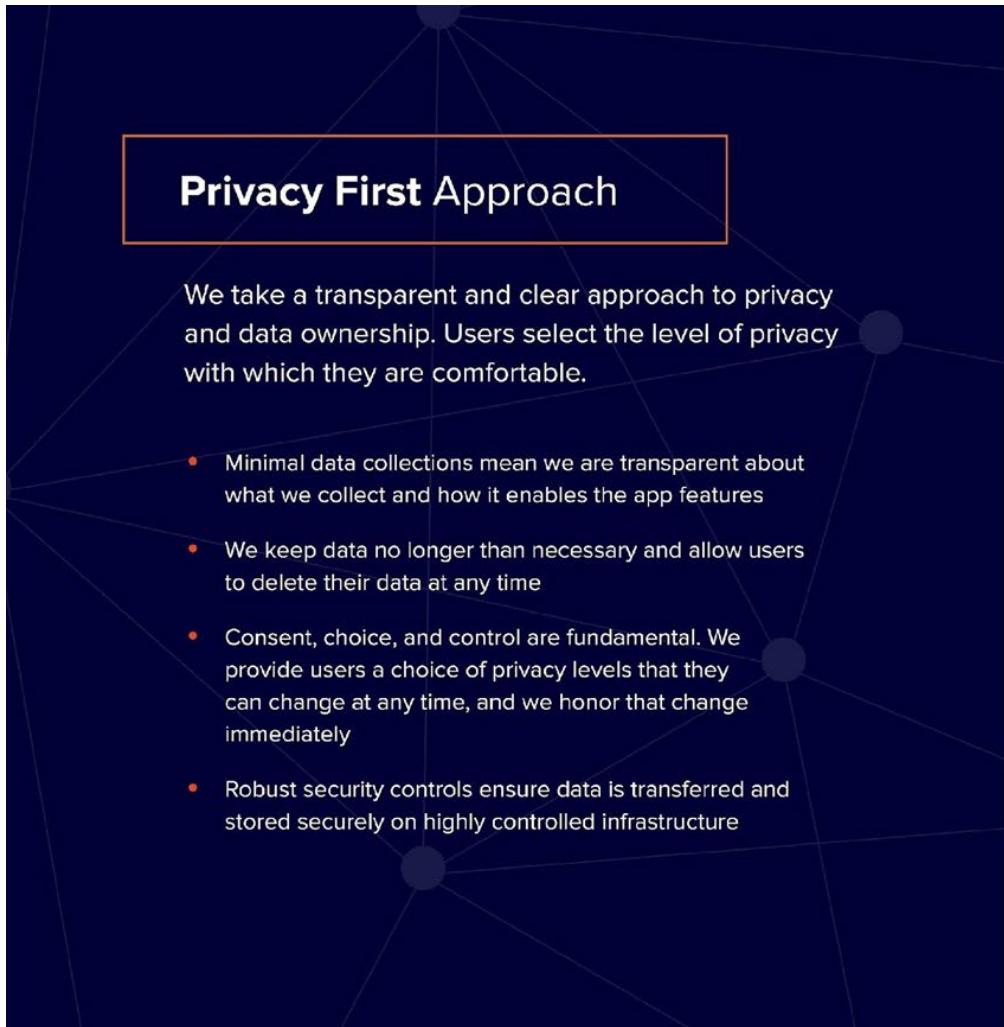




# Rokwire's solution

- 1. Privacy-centric backbone:
  - Users own their data
  - Data is never sold
  - Maximizes user consent, choice, and control
- 2. Technological backbone:
  - Free and open-source platform
  - Uses modular “blocks” to significantly streamline development
  - Hardware Secure Enclaves (HWSEs)

# Rokwire's solution



# Rokwire

- First two apps:
  - Illinois App
  - Safer Illinois





# CSBS Mission

- Mission is to improve the social and behavioral science ecosystem
  - Better leverage our collective expertise to bring more external funding resources
  - Support our social and behavioral scientists (trainings, community-building)
  - Enhance public engagement (e.g., with nonprofits, community organizations, the state of Illinois)

# 1. Proposals: tech-engaged social-behavioral research

- CSBS-Leading Proposals
  - NSF Smart and Connect Communities (Allen, Garthe, City of Champaign, Rokwire, CSBS)
  - DOJ Research and Evaluation Initiative (Garthe, Allen, Women's Resource Center, Rokwire, CSBS)
- Facilitating collaborations
  - Serving as ambassadors of ~200 SBS faculty (by connecting to them and catalyzing SBS-research in ROKWIRE)
  - Bridging connections to key community partners
  - Other Areas (Student Success, Health, Transportation, Events)

# Example Research



# Meet the team



# Building Community and Preventing Violence

- Violence-prevention software
  - Q: How can we create a smart city platform - Rokwire - that is effective at reducing community violence?
- Technology and unintended consequences (e.g., victim-blaming).
  - Q: How can we measure and reduce any unintended consequences of using Rokwire?



# Preserving privacy in community organizations

- Privacy technology needs to be extended to cover cases where data are accessed and analyzed by researchers and community partners
  - Q: How can we create an open - source framework that others can easily use to modularly build civic applications?
  - Q: How can researchers and civic partners build digital services worthy of public trust?



# Future work

- Present research is a test case
- Can Rokwire be used to support a wide range of civic applications and social science research while protecting privacy and data security?
- Goal: provide open-source, community-maintained technologies in place of others



## 2. Transform ROKWIRE into SBS research vehicle

- CSBS is uniquely positioned and will advocate for the needs of SBS faculty
- Engage students as citizen scientists and research participants
- Connect ROKWIRE team to diverse, representative SBS faculty members in areas:
  - Mental and behavioral health
  - Socioemotional development
  - Academic achievement
  - Violence prevention and responses

# Example 1 – Student success

- **Problem:** Why do first generation students underperform relative to continuing-generation students?
- **Diagnosis:**
  - Lack of belonging
  - Side work detracts from peer-networks
- **Research:** Can curating peer-hosted study groups where first-generation students establish peer networks help maintain academic success?



# Example 2 – Health and well-being

- **Problem:** How can we increase the rate of flu vaccination on campus and in the community?
- **Diagnosis:** People generally have positive attitudes towards vaccines; but those rarely translate into specific behaviors
- **Research:** Can creating a prompt that asks students to select a specific time when they plan to get their vaccination increase uptake?

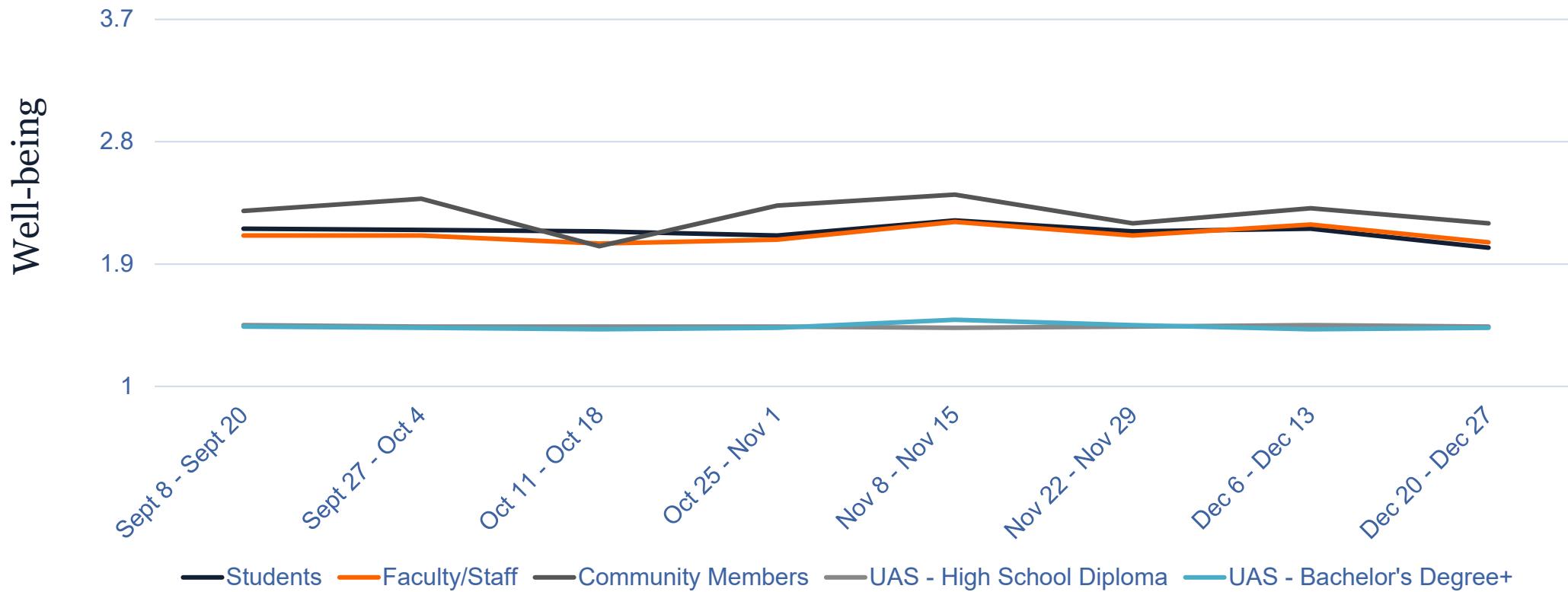


### *3. Process research* provide an SBS-backbone to drive key user outcomes

- ROKWIRE aims to make cities smarter, healthier, and more sustainable – all of which require an SBS-informed approach
  - Student success
  - Health and well -being
  - Sustainability
  - Legal Help
  - Positive student experiences

### 3. *Process research*: provide an SBS-backbone to drive key user outcomes

- CSBS Longitudinal Mental Health Survey



# Going forward

Focus group interest? Beta testing tool? Concerns?

Connect with us:

[ondish2@illinois.edu](mailto:ondish2@illinois.edu)

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



# Notes

- [https://www.thedp.com/article/2021/02/wharton\\_text-reminders-flu-vaccination](https://www.thedp.com/article/2021/02/wharton_text-reminders-flu-vaccination)
- [https://medium.com/swlh/the\\_7-most-creative-examples-of-habit-changing-nudges-7873ca1fff4a](https://medium.com/swlh/the_7-most-creative-examples-of-habit-changing-nudges-7873ca1fff4a)
- <https://bcfg.wharton.upenn.edu/>
- [https://bloombergcities.medium.com/explainer\\_what-is-human-centered-design-4d7883d406ce](https://bloombergcities.medium.com/explainer_what-is-human-centered-design-4d7883d406ce)
- [https://medium.com/swlh/the\\_7-most-creative-examples-of-habit-changing-nudges-7873ca1fff4a](https://medium.com/swlh/the_7-most-creative-examples-of-habit-changing-nudges-7873ca1fff4a)
- <https://www.sciencedirect.com/science/article/abs/pii/S0165176513001286>
- <https://science.sciencemag.org/content/370/6517/eabb6591.full>
- FG student success
  - <https://journals.sagepub.com/doi/full/10.1177/1521025117690868>
  - <https://www.tandfonline.com/doi/abs/10.1080/26906015.2021.1890948>