The Open INcentive Kit (OINK): Standardizing the Generation, Comparison, and Deployment of Incentive Systems

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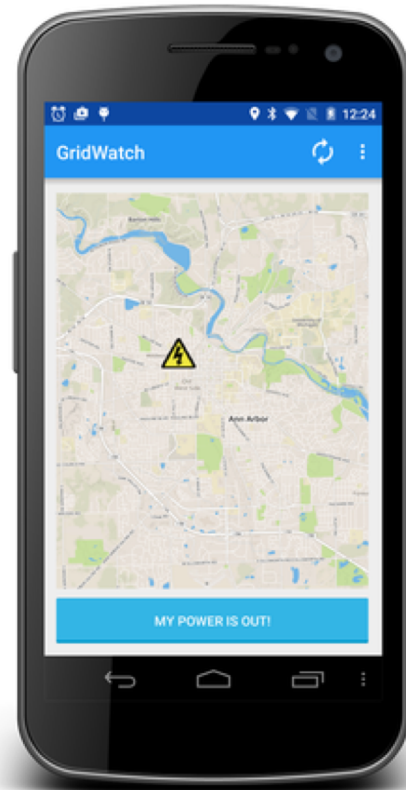[†]   [*]

Application: Sensing AC grid reliability in Ghana

Achimota, Accra, Ghana

https://www.youtube.com/watch?v=NzBGBXrwVYc

Let's start putting together a deployment...

GridWatch[2]

PowerWatch[3]

[2] Klugman, N., et al. "Grid watch: Mapping blackouts with smart phones" Hotmobile 2014

[3] Klugman, N., et al. "Demo: Android Resists Liberation from Its Primary Use Case." *MobiCom 2018*

Challenge: Incentivize people for many things

Personal Interaction	GridWatch	PowerWatch
Consent/Baseline	Install	Install
Endline	Monthly	Monthly
	In-app Invite	Post-experiment collection

Accountability? Audits? Complicated execution?

Solution: Scripting?

- IT seems critical

- Lots of pieces are done for us…
    - Incentives transfer is already digital
    - Some behavior monitoring tools exist
    - Databases support logging of transactions

- Our incentive systems have common patterns
    - Something happens that someone gets an incentive for

What do other researchers do?

- Incentive systems influence participation and population

- 175 papers and abstracts from ACM DEV, CHI, and ICTD

- 215 papers from medical education journals [1]

- Sorted into:
  - No human subject
  - No mention
  - Some mention
  - Discussed

No Mention	Some Mention	Discussed
55%	31%	14%

[1] Stovel, R. G., et al. "Incentives for recruiting trainee participants in medical education research." *Medical teacher*

Incentive schemes need to be modernized

Observations:
- Incentive schemes are critically important and under reported
- Incentive schemes are implemented ad-hoc
- Incentive schemes share patterns
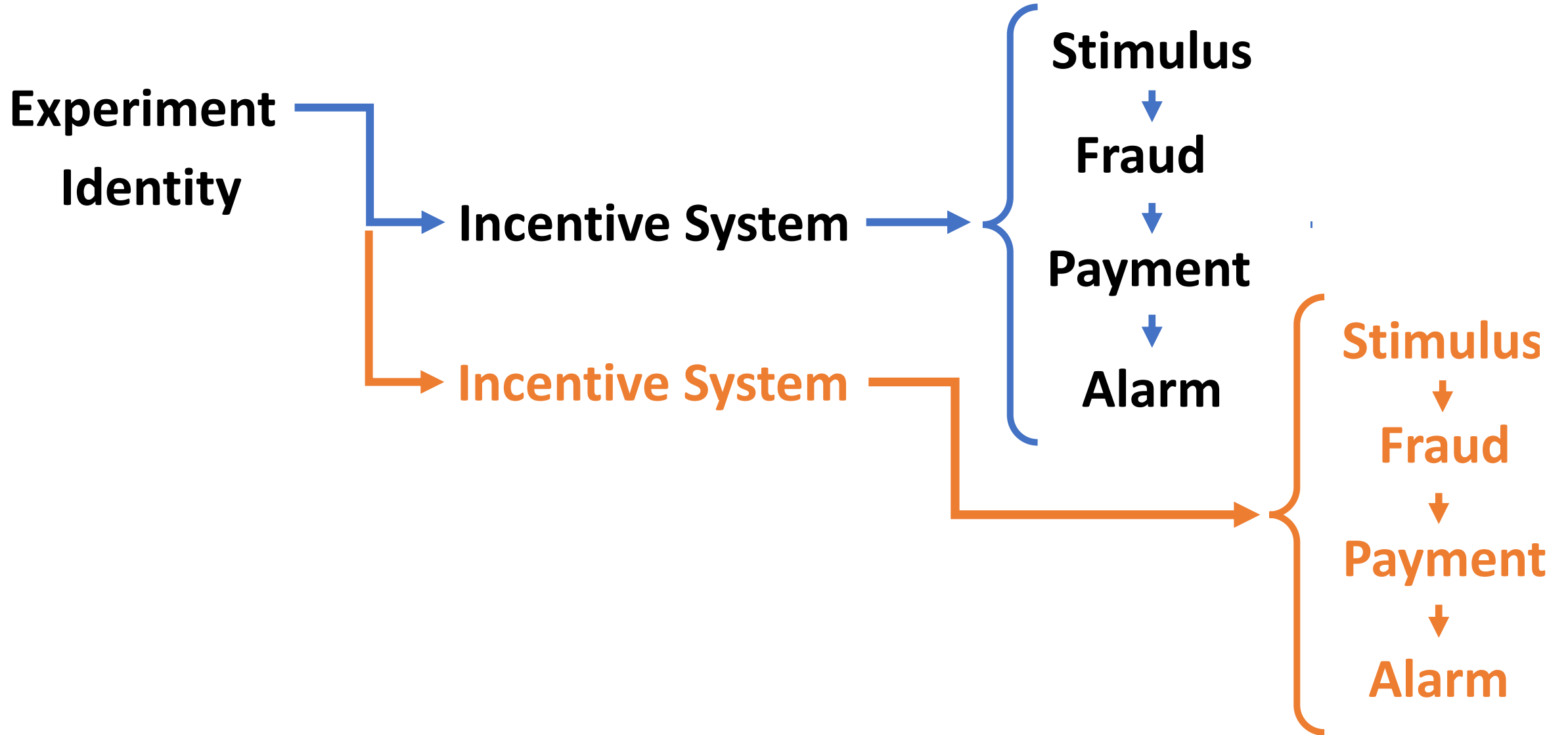- We depend on IT to implement complicated incentive systems

What if this wasn't the case?
- Could we lower the barrier for running experiments with incentives?
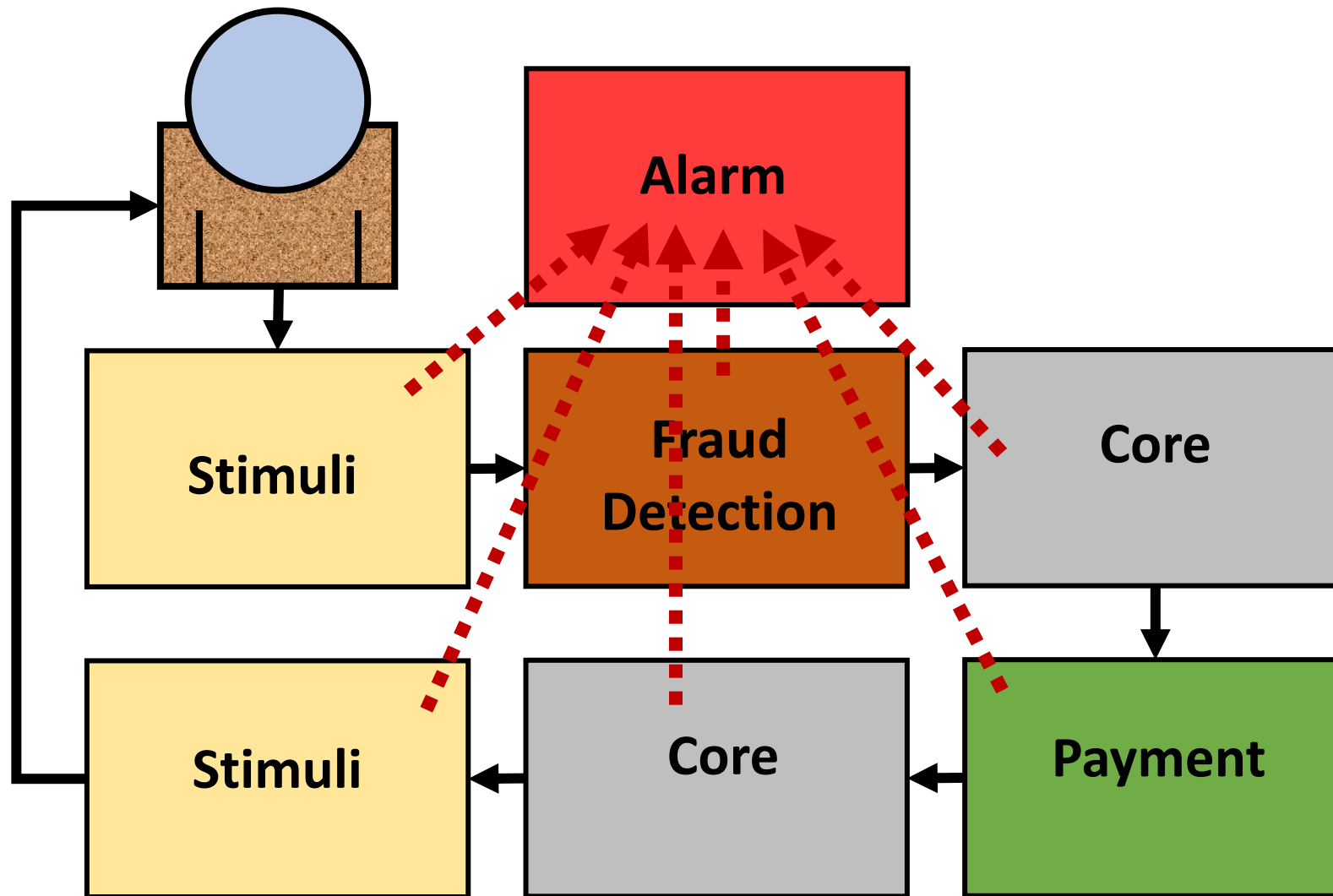- Could this enable better reporting in the literature?

The Open INcentive Kit (OINK)

We introduce the Open INcentive Kit, or (OINK), which we hypothesize could support and automate the design, deployment, and management of a broad range of incentive systems, both to facilitate the description and comparison of incentive systems in the literature, and to reduce their overhead while increasing their quality
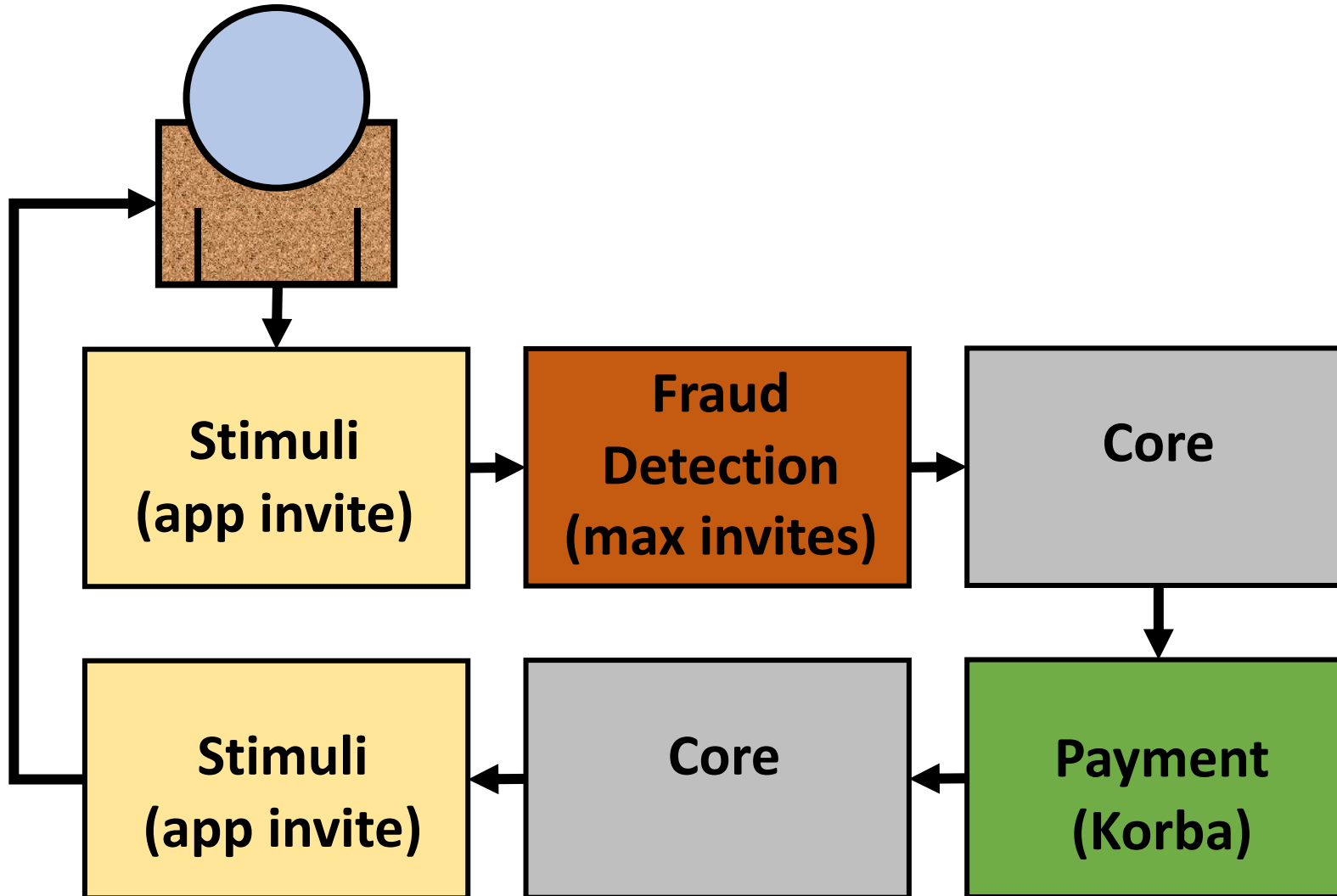
Vocabulary to describe incentive systems
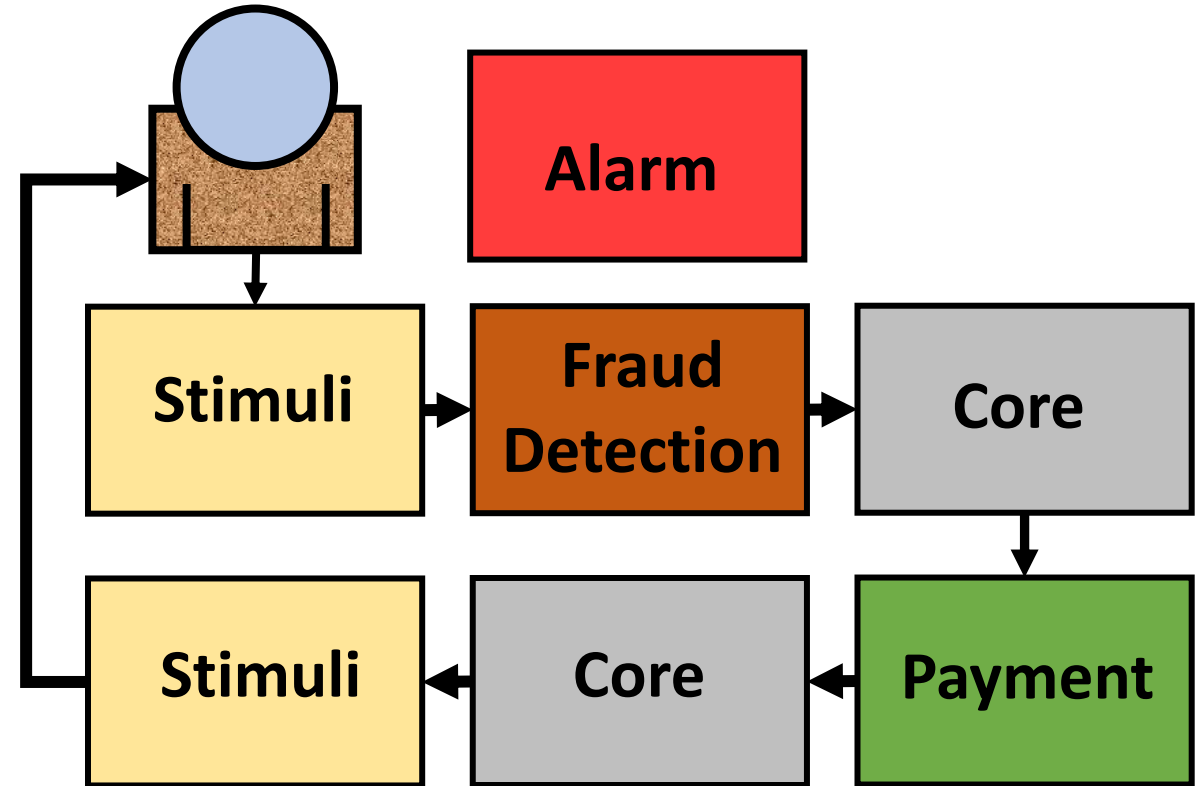
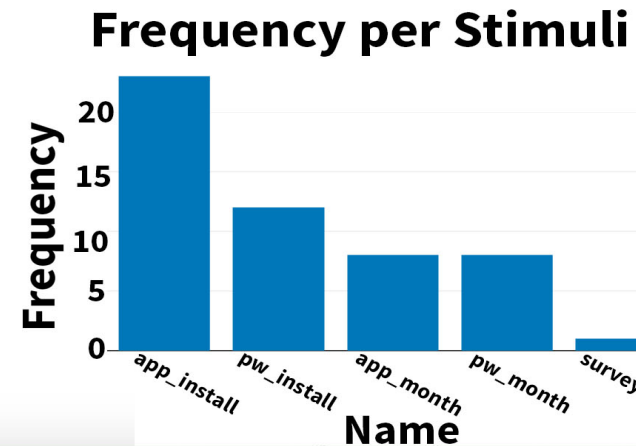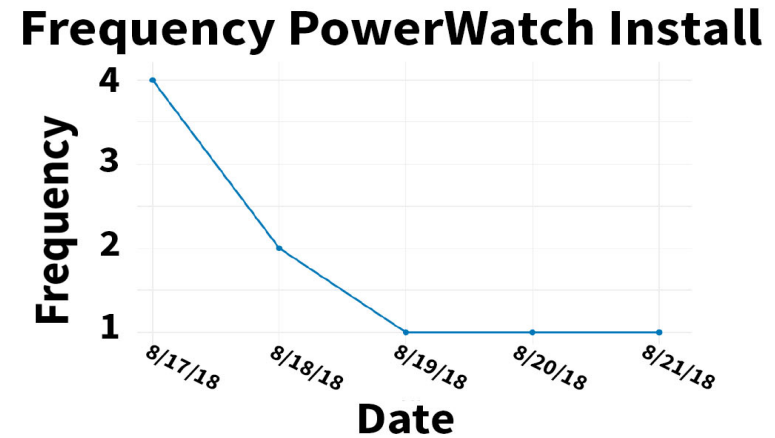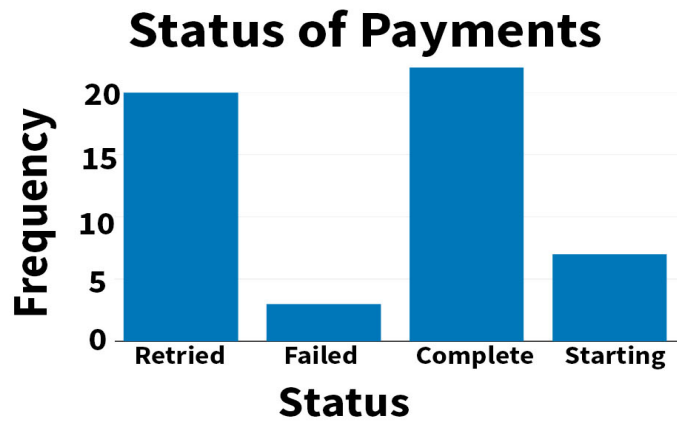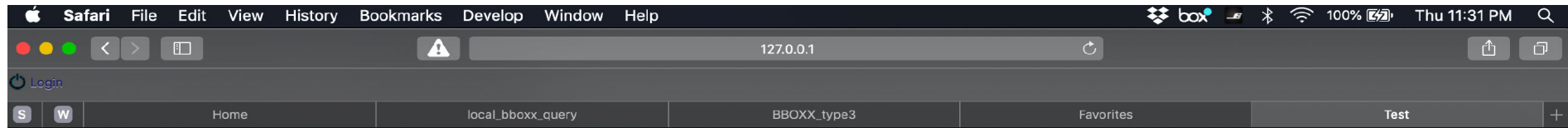# Software Structure

App Invite

A generalizable system

- OINK logic is shareable and reusable

- Functions as a Service are helpful
  - Short running functions in a cloud runtime
  - Don't need to manage much...
  - Arbitrarily scalable
  - A number of popular commercial providers

Deployment management

What we are releasing today

- A application-specific implementation of OINK that supports our current experiment

- A solicitation for new incentive schemes
  - What key idioms are we missing?
  - Can we support your study?

https://openincentivekit.com/
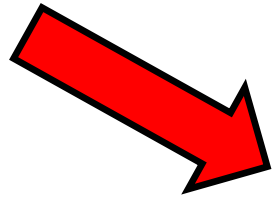
Works in progress

- Open source project
  - Clear path for function contribution and incorporation
- Auto-generation UI
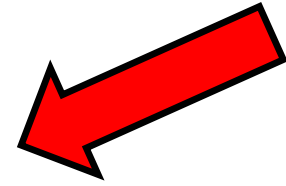- Plain text generated descriptions

Closing thoughts

- OINK is the first work to generate scalable and auditable incentive systems
- The vocabulary we propose could help with reporting and comparing incentive systems in the literature
- OINK is designed for non-coders
- We are aiming for a community of users and contributors

Thanks!

OInK

← https://openincentivekit.com/ →

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