rim

Reclaiming Self-Data Sovereignty in the Age of Wearables

what’s on your 10tb

o v e r v i e w

1. theatrical demos
2. standing on the shoulders of giants J
3. rim vision and why now J
4. sd-core & packing D
5. soradyne live data model (+demo!) D
6. identity and memory D
7. your data for you J
8. trusted digital tool future J

—

9. workshop co-hosts Nora Borealis & Changbai Li
10. questions & invitation

1. Theatrical Performance Art

- Hinging laptops
  - Remote collaboration through force-feedback haptic devices
- Mounting SD card jewelry devices until threshold to load a photo album demo
  - Snap-connecting instant mount demo
  - Data Dissolution/Crystallization across multiple SD cards
- Heart-rate colmi to motorized heart twitching demo
  - Taqing
  - Taque
  - Taquing

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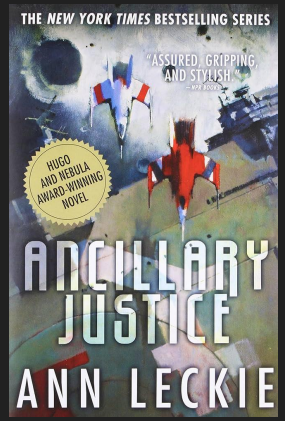
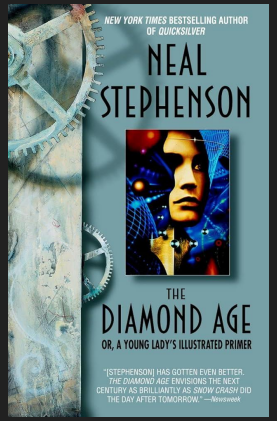
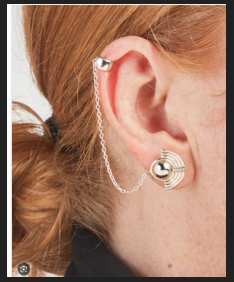
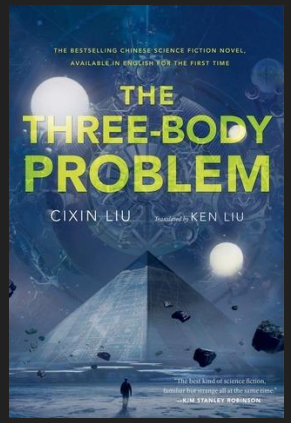
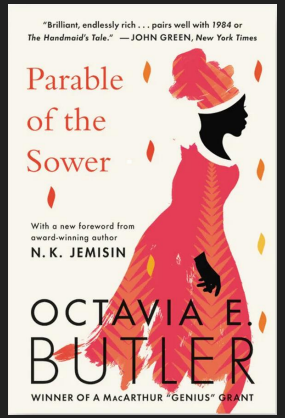
Sci-Fi bibliography

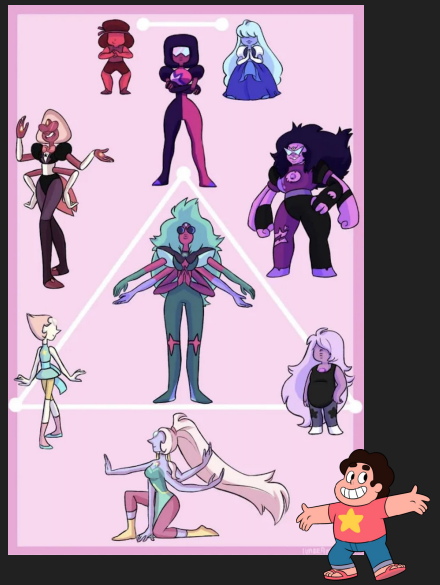




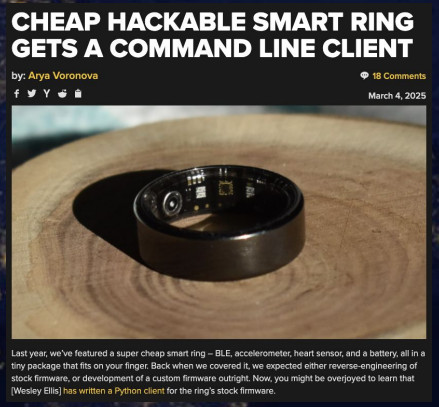








Standing on the Shoulders of Giants



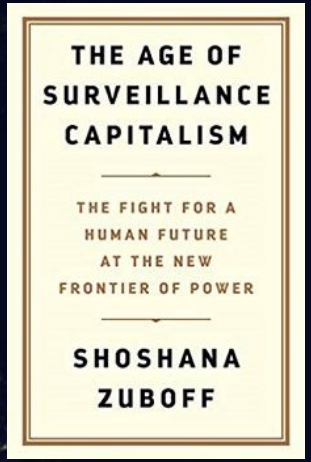
https://github.com/tahnok/colmi_r02_client

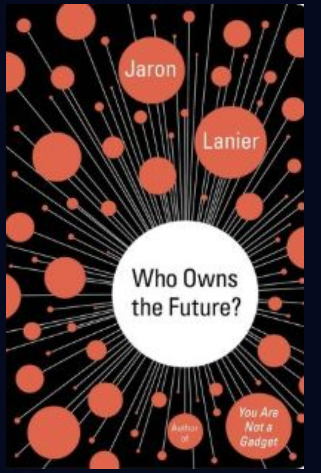
r/place 2017

g0v

Ask not why nobody is doing this.
You are the "nobody"!

g0v is a decentralized civic tech community from Taiwan.
We advocate transparency of information and build tech solutions
for citizens to participate in public affairs from the bottom up.





Input Crowd, Output Meaning

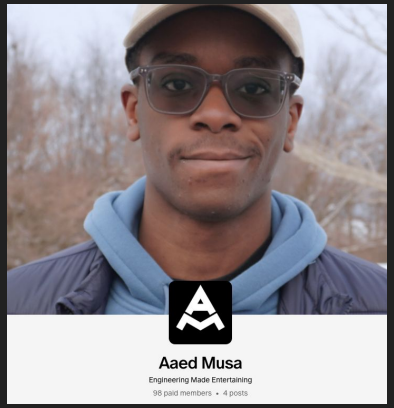
Polis

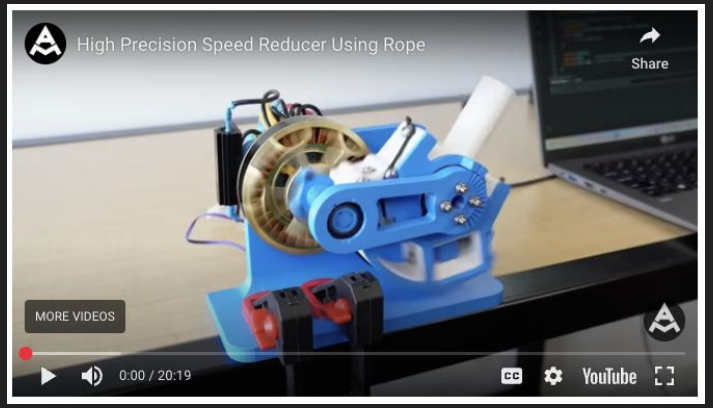
Polis is a real-time system for gathering, analyzing and understanding what large groups of people think in their own words, enabled by advanced statistics and machine learning

Standing on the Shoulders of Giants

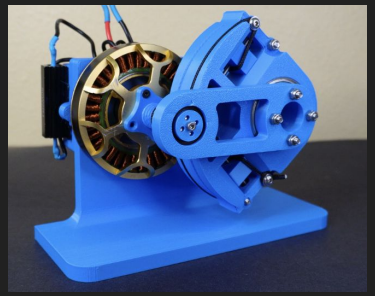
- Audrey Tang: https://g0v.tw/
- Nora Bateson: https://batesoninstitute.org/2018/09/12/nora-bateson-on-warm-data/
- Shoshana Zuboff: https://en.wikipedia.org/wiki/The_Age_of_Surveillance_Capitalism
- Giovanni Butarelli: https://archive.epic.org/giovanni_manifesto.pdf
- Jaron Lanier: https://www.goodreads.com/en/book/show/15802693-who-owns-the-future
- Tristan Harris: https://www.youtube.com/c/CenterforHumaneTechnology
- Wesley Ellis (tahnok): https://github.com/tahnok/colmi_r02_client
- Bunnie Huang: https://www.bunniestudios.com/blog/on-microsd-problems/on-hacking-microsd-cards/
- https://en.wikipedia.org/wiki/R/place
- Polis: https://pol.is/signin
- and many more inspirational projects and figures…

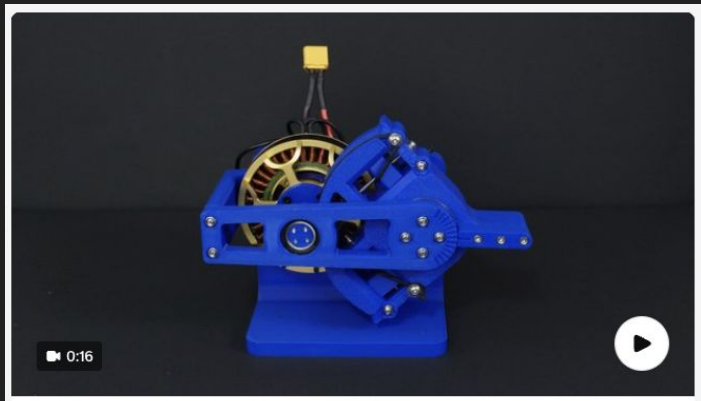
Special shout out to Aaed Musa





https://www.patreon.com/aaedmusayt





8:1 Capstan Drive Test Stand Project Files (Description)

July 9

Click Here to Buy Now

Unlock the project files for the 8:1 capstan drive test stand. A capstan drive is a rope-driven speed reducer, and you can learn all about them by watching my YouTube video High Precision Speed Reducer Using Rope. This test stand features the same capstan drive design that I used on CARA, my rope-driven robot dog. If you want to use a capstan drive for your own project, this is a great starting point.

What's Included

- A 21-page step-by-step build guide that walks you through gathering the parts, assembling the test stand, building and configuring the electronics, and uploading the code.
- A BOM (Bill of Materials) with links to purchase the parts

https://www.aaedmusa.com/projects/capstandrive

we made up some names

Tac, Tactile, Taquing = to transmit a live haptic connection to someone remotely
“She’ll call them” “I’ll shoot you an email” “Let’s FaceTime” “Tac me”

SD in Sandisk and microSD to mean Self-Data, Soul-Data, Soradyne

Self-Data expanding on “Personal Data”

Soradyne = proof-of-concept data protocol, it’s already an outdated dinosaur

brassroutes = grassroots movement in the hacktivist domain

Personal Personal Computing

we made up some concepts

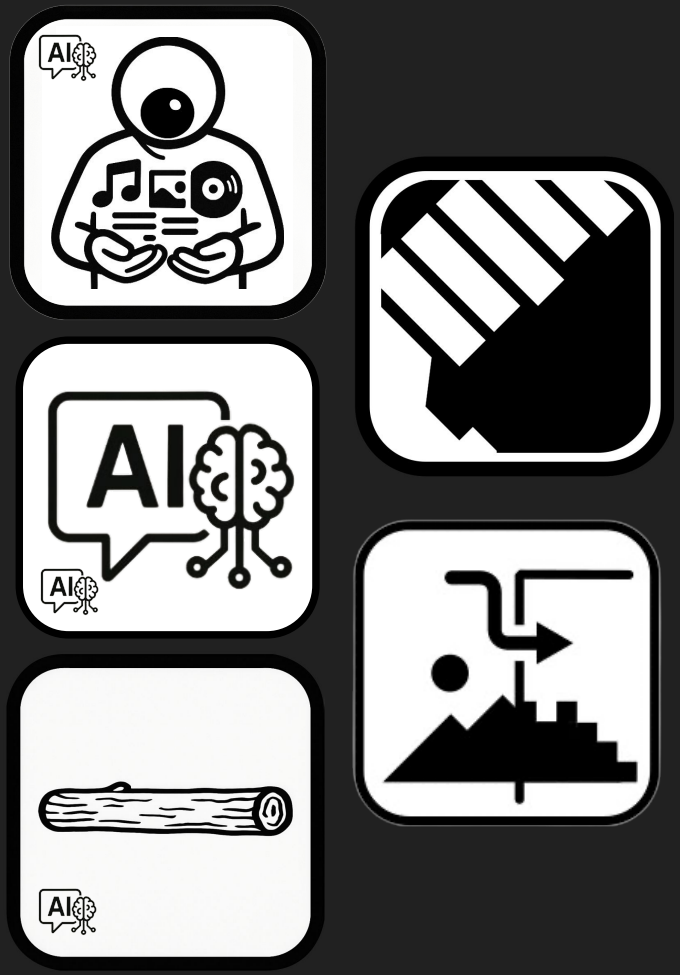
Right to Bare Data

SD-Core

AI Assisted

All Data is Derived

Homomorphic to a Stick



rim

Reclaiming Self Data Sovereignty in the Age of Wearables

As we approach a future where body-worn devices capture **increasingly intimate biometrics**, the question of who controls that data has never been more urgent. This talk introduces rim, a **techno-social vision** and set of protocols challenging the standard model of cloud-based data extraction by building **tangible**, person-to-person systems for storing and **sharing intimate live data streams**, innovating at the **edge of taboo** to expand human connection while preserving privacy and autonomy. We'll demonstrate early prototypes of wearable devices implementing our **"SD-core" aesthetic** and detail the technical underpinnings of our protocol concepts including **data dissolution** and crystallization, and localized **redundancy** strategies. Beyond technical implementation, we'll discuss how this paradigm shift creates space for entirely new forms of **human-to-human connection** at the boundary of what's technically possible and socially acceptable.

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Thesis

- We assume that collective decision-making can navigate us through the world's complex and interrelated crises

- It has become apparent that as long as any group has strong surveillance over many others, collective governance is not possible
  a. They can tip the tables without others knowing, obscuring reality and making collective decision-making untrustworthy

- Technologies that unify us through our senses and bodies can help us act together with cohesion

Mutuality

🌍 **Collective Transformation**: Nonviolent coordination for human flourishing

- Truth history strings (personal, organizational, …)
- Infrastructure within bounds of biosphere
- Discourse algorithms that pull toward cohesion
- Non-violent resolution of conflicts

digital governance
(beyond borders)

Intimate

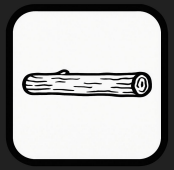
🤝 **Connection Technologies: Digital and physical intimacy at every scale**

Your raw truth digital mirror and intimacy with self: health, choices, assumptions, recurring patterns of consequences

Friends and community, sharing health data, discovering and analyzing your trends together

Significant others, wearables that move, feel their heart beat

Personally tailored suggestions from professionals (therapists, coach, fitness trainer, doctor/nurse, reiki, yoga, massage/chiropractor)



Global projects via interconnected collaborative haptic wearable tech…

And reliable accessible bedrock authentication, personal ID

“That’s how you pilot a gigantic robot”
(aka the spaceship Earth we’re all traveling on)

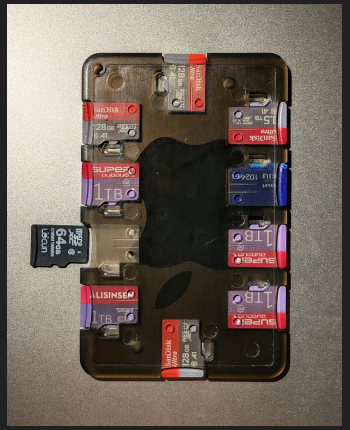
Reclaim

🔒 **Personal Sovereignty: Your data, on your body, under your control**

Bare data wearables: export and interconnect

Lookers for viewing data

Memory: (streaming), slow (storage)



what's on your 10tb

Ecosystem of trusted digital tools (software and hardware)

"Innovation at the edge of taboo"

Most of our talk will focus on demonstrating proof of concepts aiming to build this foundation level

rim self-data protocol
built on FOSS values with brass-routes movements

Why Now is Important

1.5TB SD Cards for $99

Cambrian explosion of wearables

New era for a FOSS foundation

Before BCI’s are predominant in a world of data-extraction business models

rim

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It’s part of larger Movements. We do it Together

Tools must be trustworthy

Democratic design

Radical inclusion, honesty, transparency

We will make mistakes, please correct us, we seek to learn

We are joining the broader collective grass-roots momentum

Contributing to the FOSS, Cyber Peace, Right to Repair Movements

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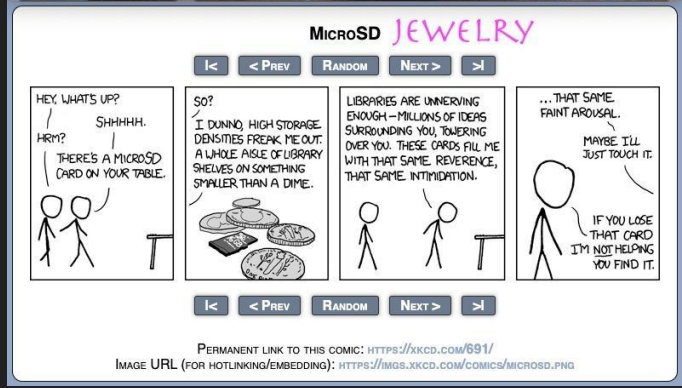
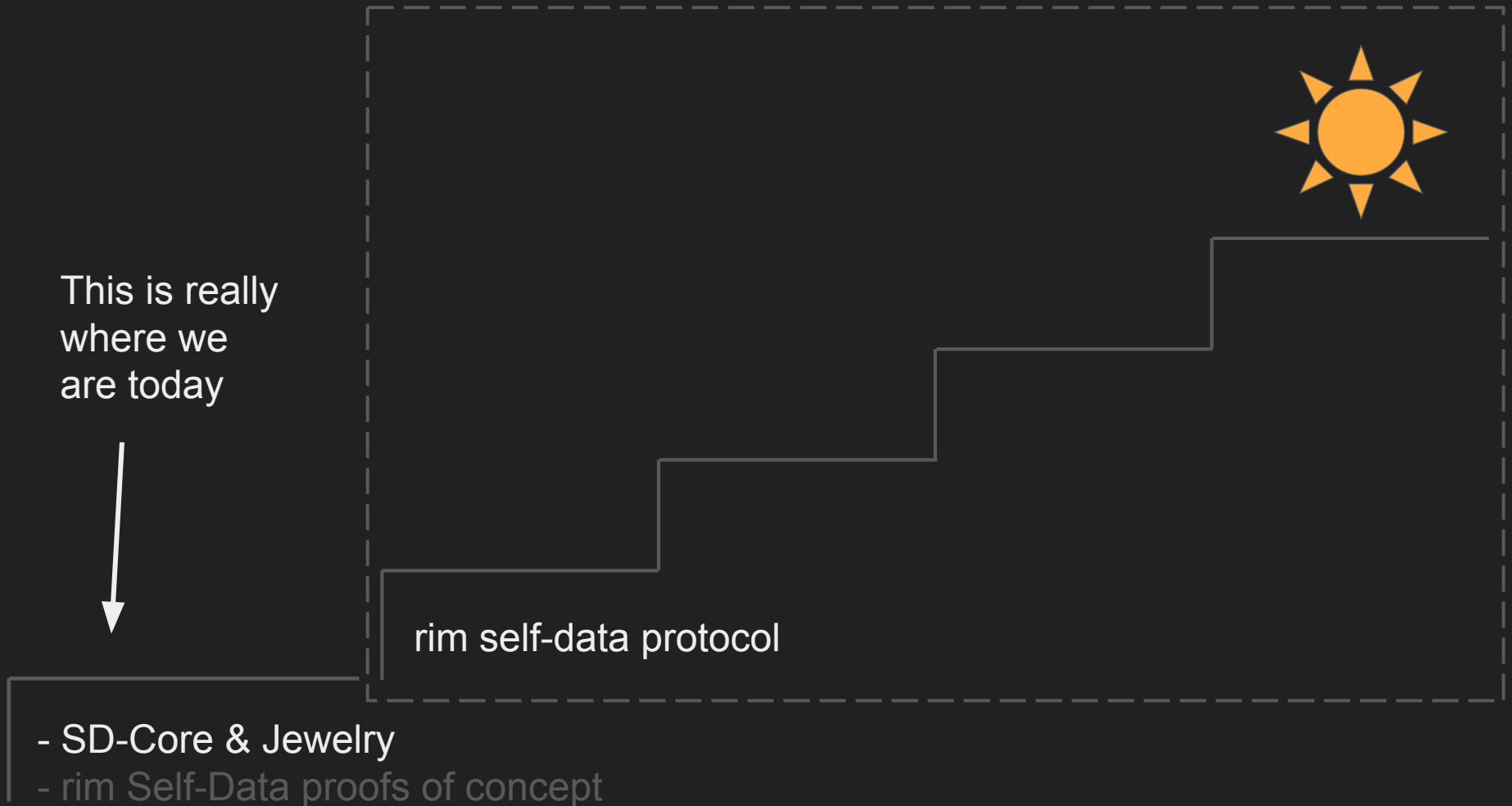


https://xkcd.com/691/


This is really
where we
are today
rim self-data protocol
- SD-Core & Jewelry
- rim Self-Data proofs of concept


SanDisk
Ultra
1.5 TB


SanDisk
Ultra
1.5 TB

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Rim Protocol Data Flow

Self-data objects are asynchronous data flows between peers

Original data stored locally via "dissolution" and sent compressed over networks

Received data flows to local storage and decompressed for display

Peers use lightweight CRDTs to track data location

Your Body as Storage & Identity

Your physical devices become your storage and cryptographic identity

Data dissolved redundantly across your personal devices

Attackers need physical access to multiple items (e.g., 3 devices)

Each key and data piece encrypted on different device sets

rim self-data protocol proof-of-concept demonstrator

github.com/dgretton/soradyne

Soradyne

Dissolution & crystallization with “dissolved block storage”

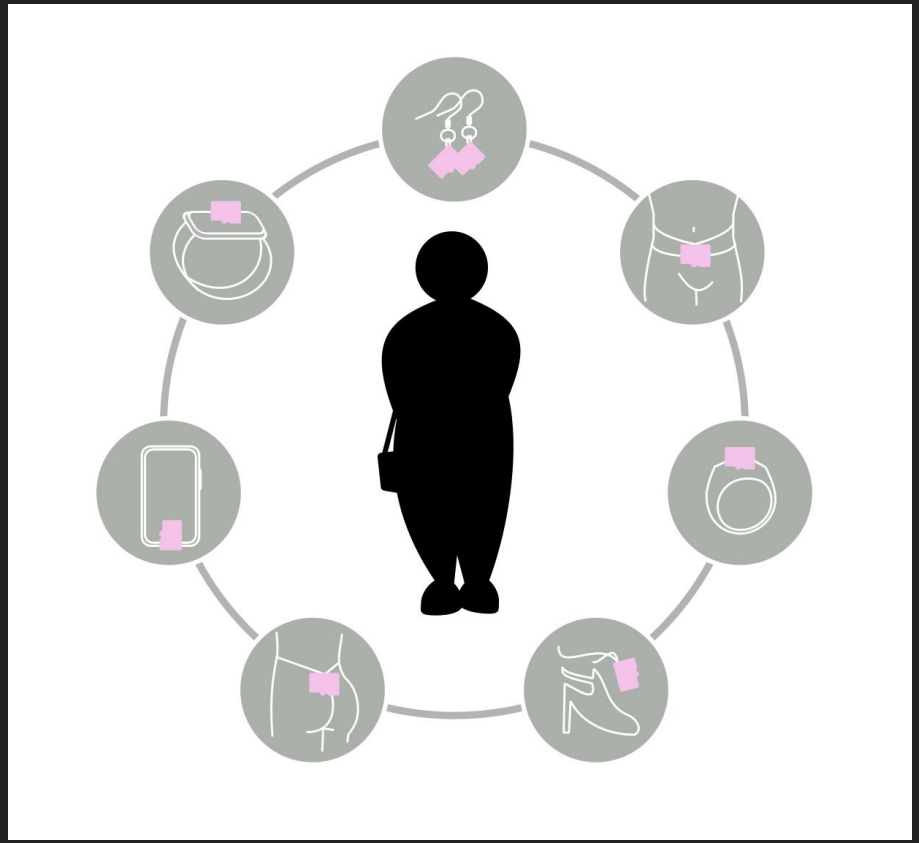
Distributed replicated data types (CRDTs) for shared self-data objects

Network bridge (currently not secure)

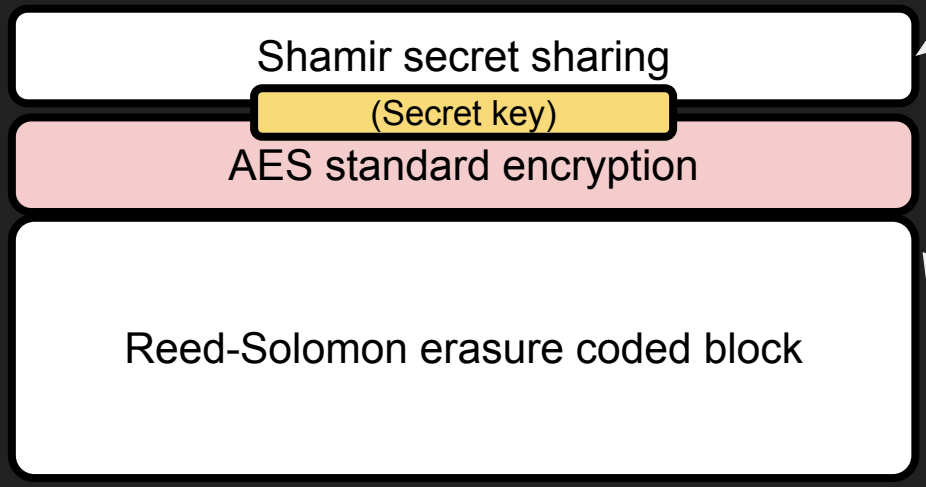
Demo apps (flutter)

Utilities (SD setup, tests, demo backends)

Multiple storage-capable devices on one “body network”



Cascaded encryption model for block storage



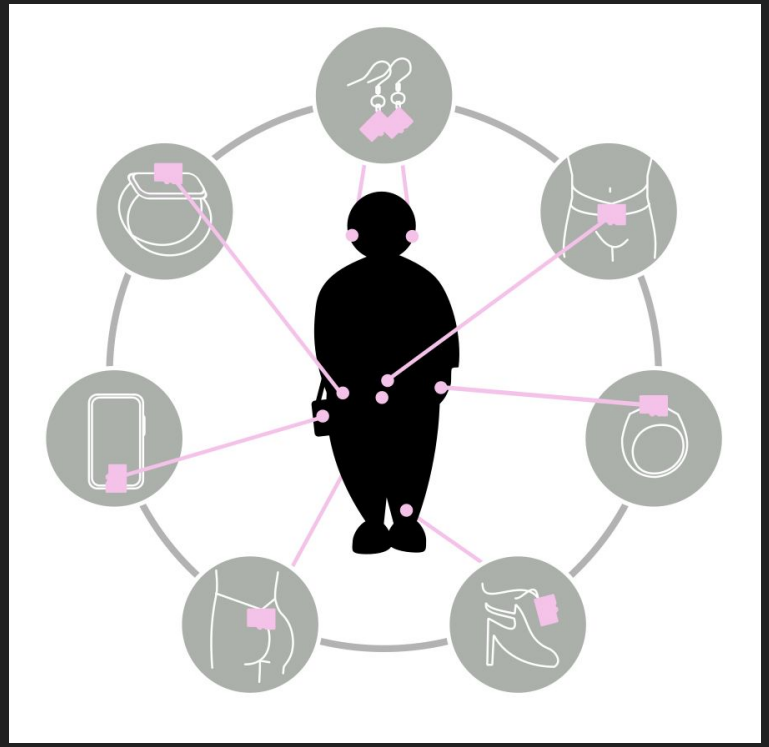
Blocks of storage are pairs of secret shares and encrypted data

Both require k of n shares to get data out

Shamir is I.T. secure but saves no space, RS saves space but is not secure

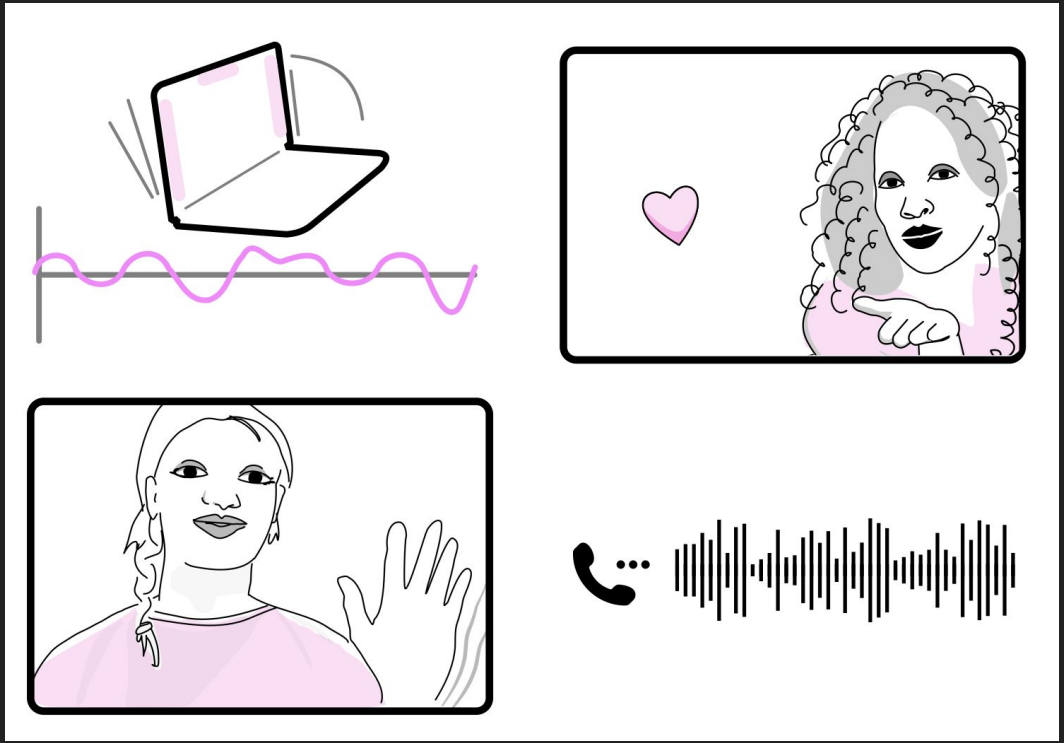
Usually stored together, possibly stored apart, across different devices, and even with different k and n if there are differential security vs storage redundancy requirements

Soradyne currently supports storing them together on SD cards (or locally in directories for testing) with the same k and n

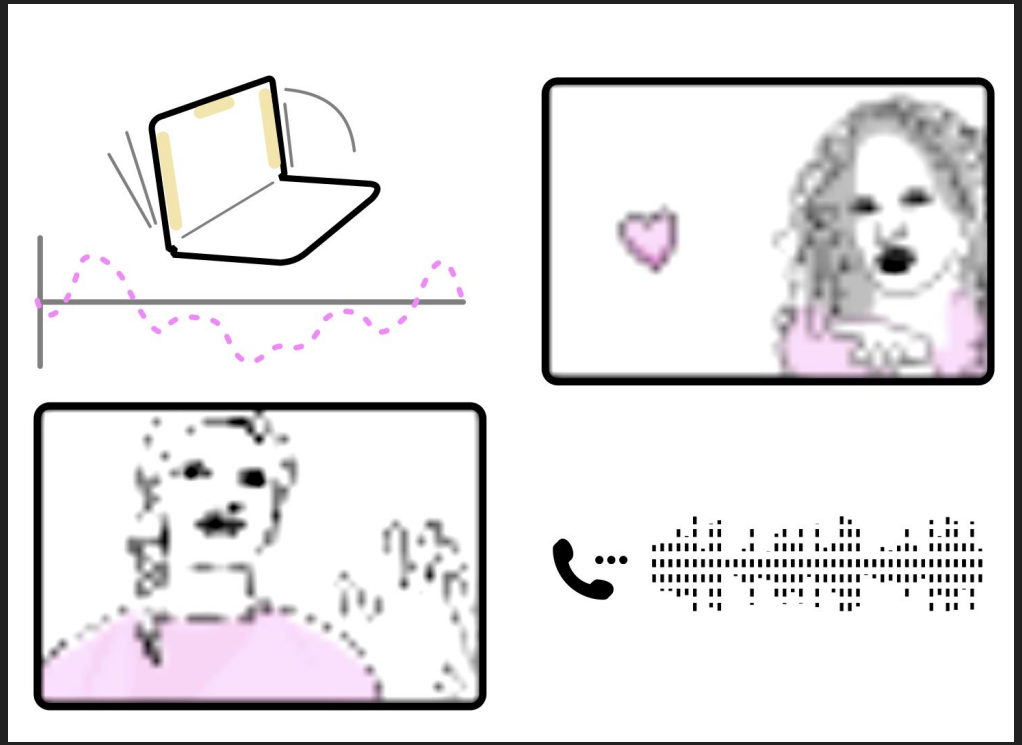


Earrings, watch, belly chain, phone, ring, tailbone, anklet – not to mention cat ears, heels, wings…

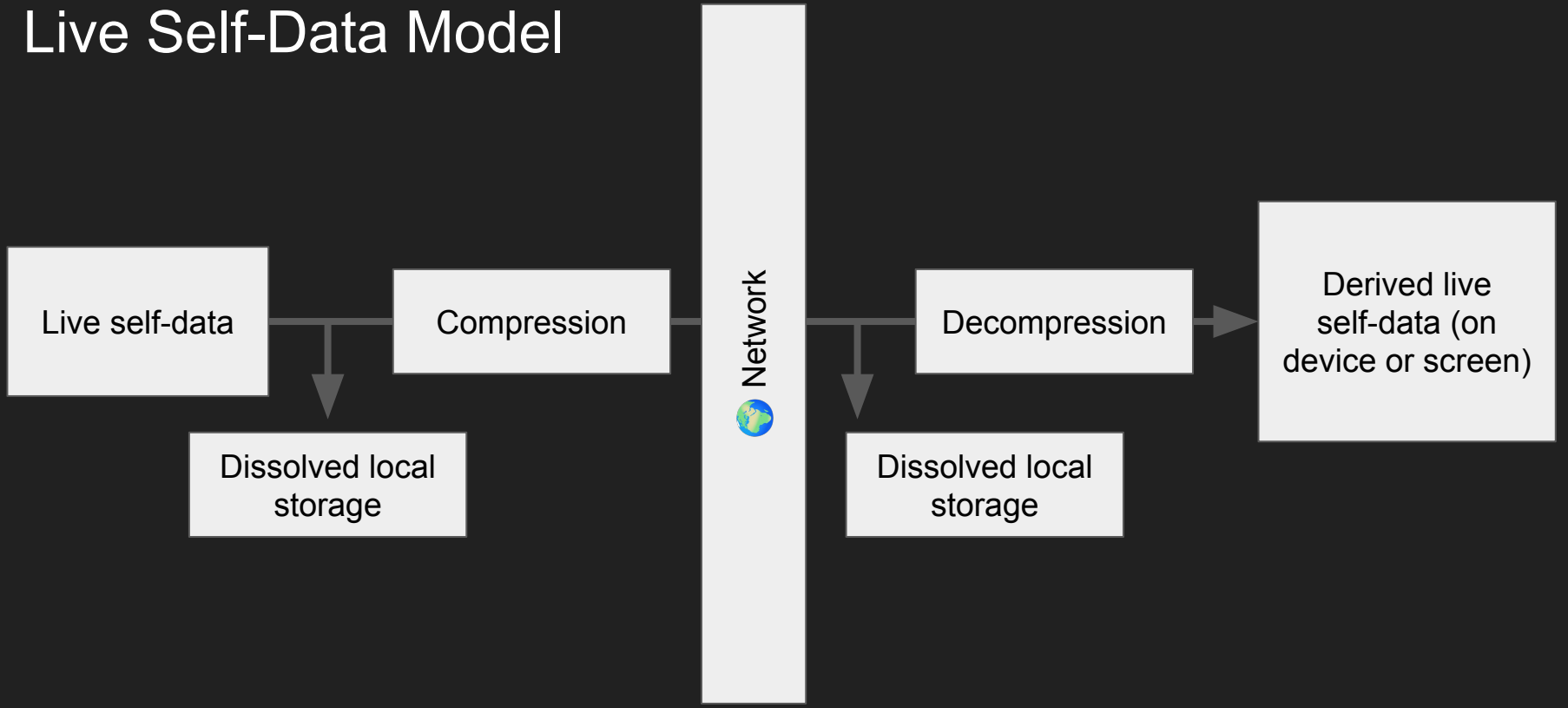
Live self-data



What is received live (not what is sent)

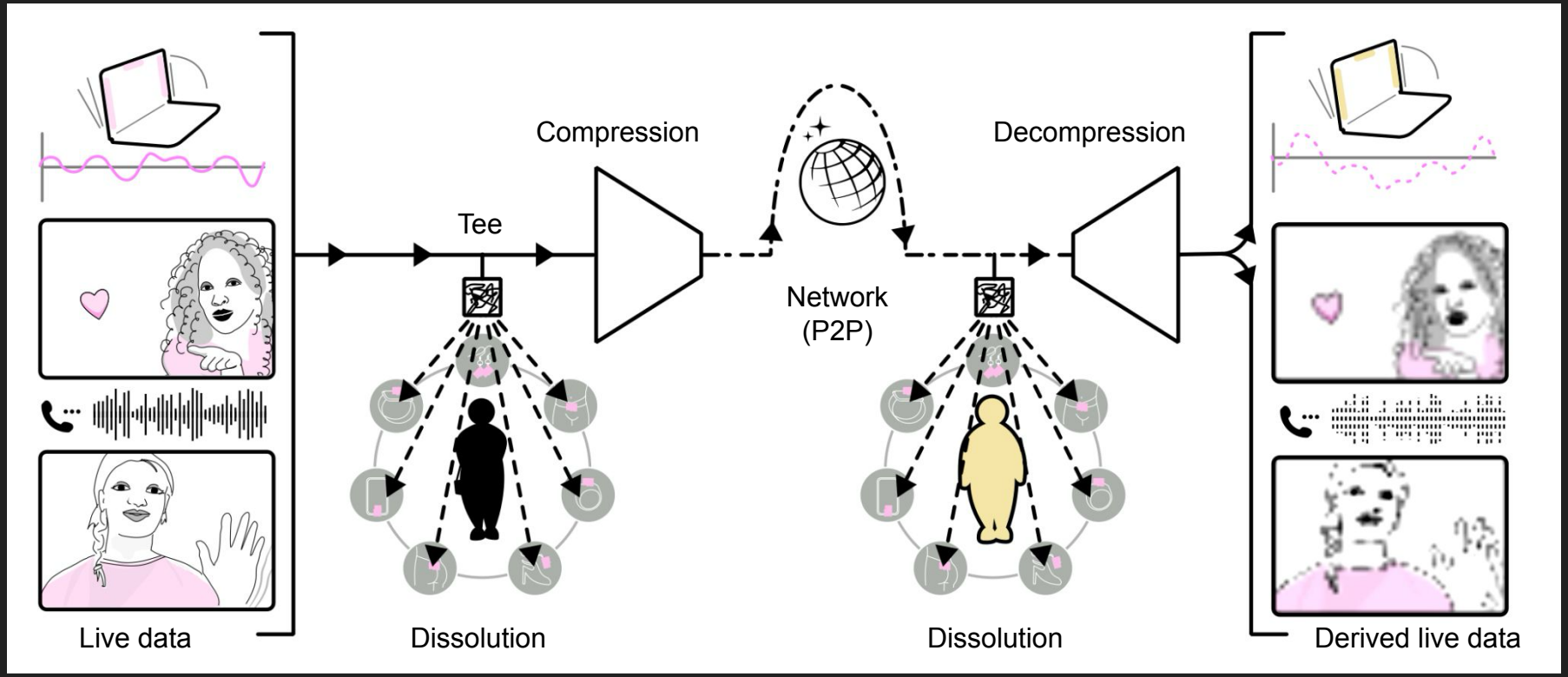


Live Self-Data Model



Also runs in reverse simultaneously or many-to-many, omitted for clarity

Complete Live Self-Data Model



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Beyond Cloud Dependency

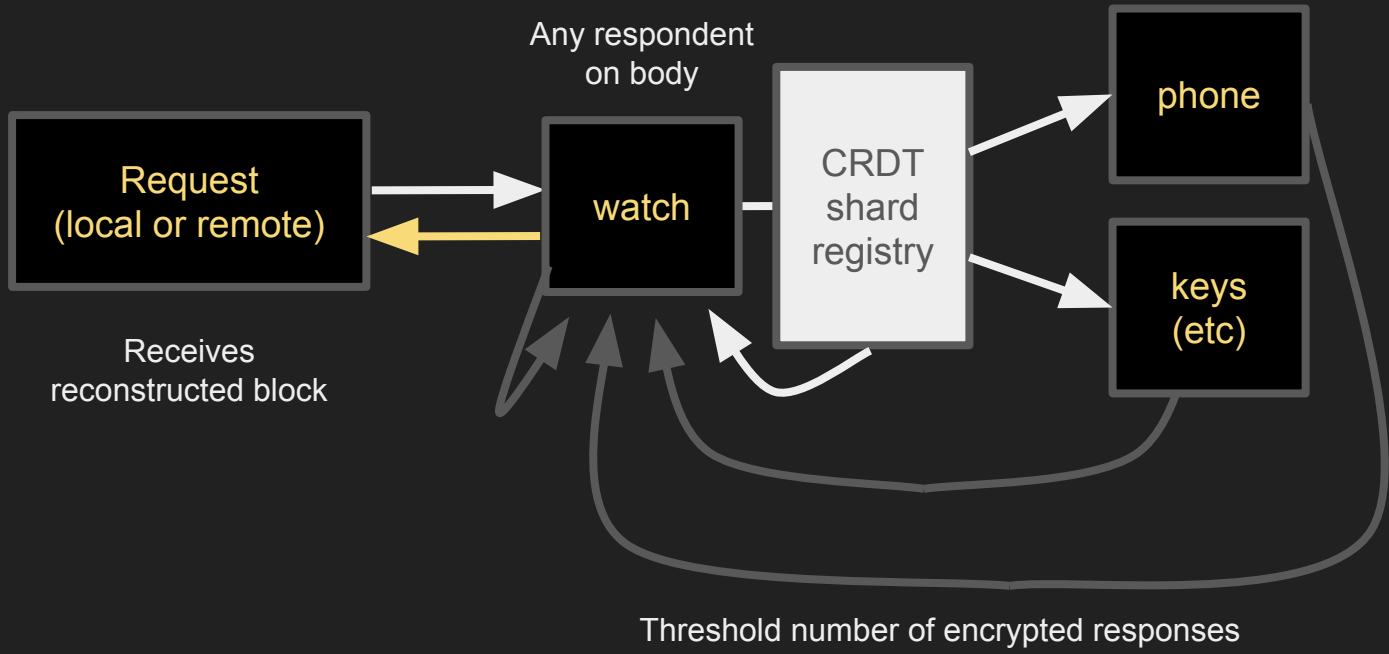
Traditional: Identity and storage from data giants/cloud providers

Rim approach: Active rebalancing maintains redundancy as devices change

Example: Video calls go directly to personal album

- higher resolution requires going back to source (the creator’s devices/body)
- Goes against content-serving conventional wisdom
- However, human availability approaching "high-nines uptime" as servers

Serving from dissolved storage



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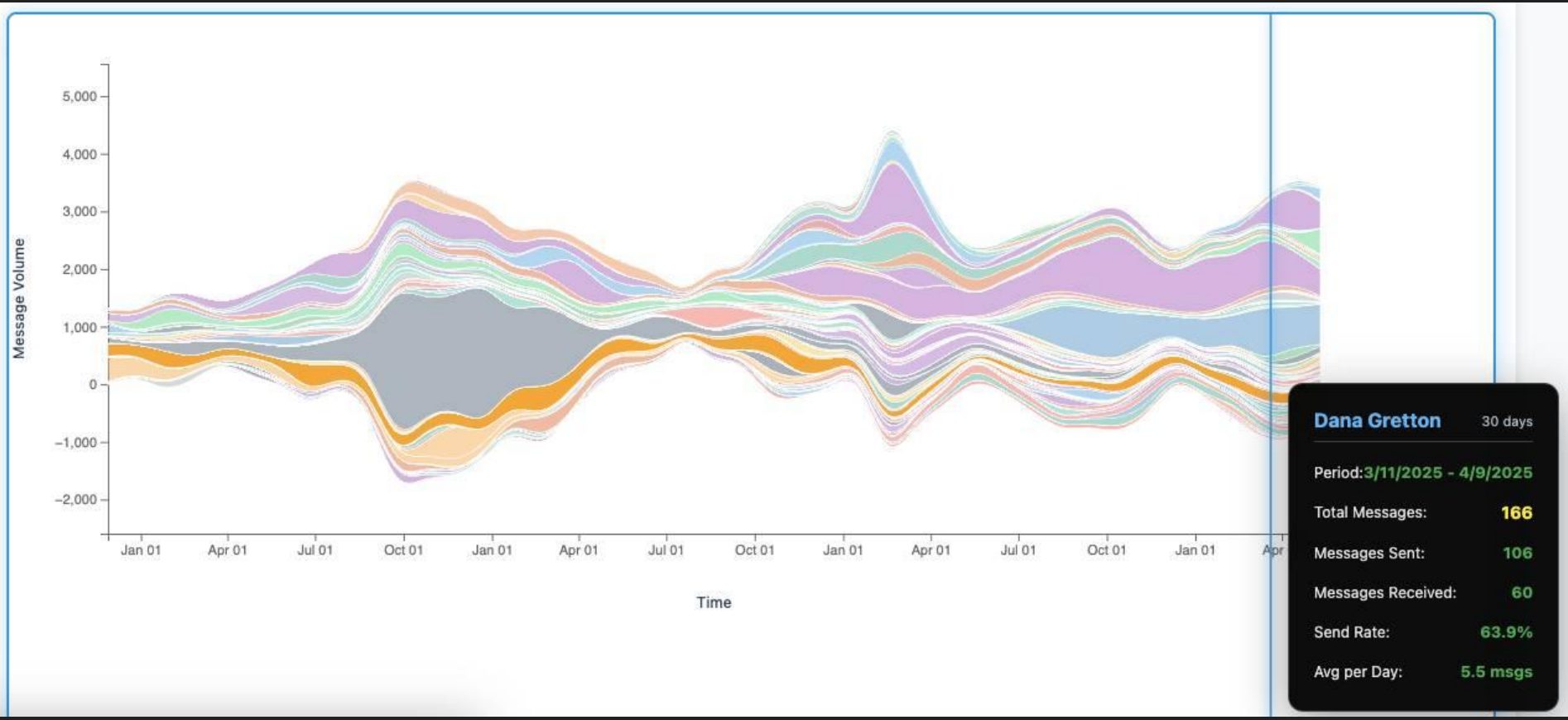
Visualized Signal Message History



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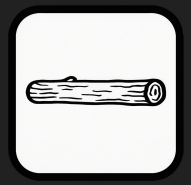
Trusted Digital Tool Future

Presentation from HOPE 2020

trusted haptic wearables for humane policy before BCI

Now you might say, “won’t BCI supersede haptic wearables in a decade?”

Yes, maybe. BCI is deep tech, high development expense thus inaccessible, and not democratically designed.



It is accessible and imperative to build such wearables now, and in doing so they will serve as training wheels for our collective conscious and governing systems to acclimate and understand these magical telepathic powers in advance in order to develop and implement a healthy foundation of law and policy so that BCI technology power is wielded responsibly, safely, and for the benefit of all living beings on Spaceship Earth.

acknowledgements

Nora: logo design, workshops, aesthetics, sales…
Lily: glass beading, casting
Andres: cryptography advising)
Sara: jewelry making/designing
Wy: mag adapter details
JLM: support/advising
Meredith: privacy policy research
Emma: casting rims
Changbai: Signal data visualizer
HOPE Organizers: tyty
And many many more…

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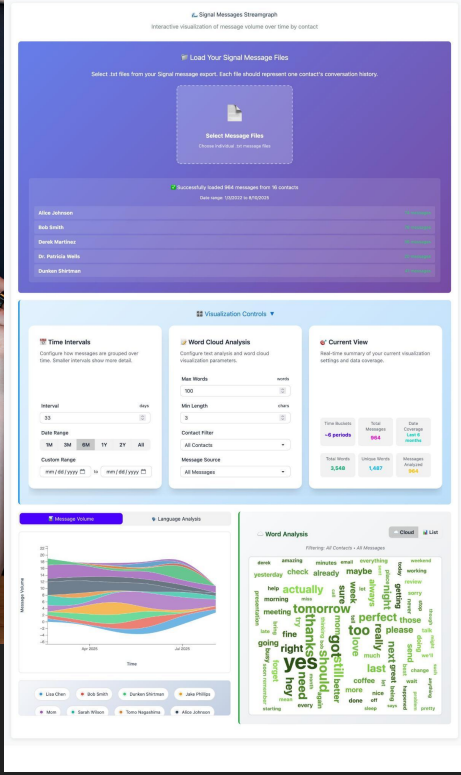
Introducing Workshop Hosts

Nora Borealis
Changbai Li

rim: Design SD-Core Jewelry and Wear Your Visualized Signal Message History

Today from 1:00pm - 3:00pm
Location: Tobin 219 (Workshop A)

More on the workshop wiki!
Scroll to the bottom of rim.gs



1. Join! Make jewelry

2. Extract your Signal Desktop message history

3. Participate in Democratic Design

Or find us at our vendor table

- Try the demos
- Make your own jewelry
- Precious metal casted microSD rims for order

Come over and chat!

Questions? We have some for You too!

- What values/goals do you want to work towards that having self-data analytics tools could assist you in your journey?
- What self-data do you want to learn from?
- Why did you come to this talk instead of going to hear from Seth Godin?
- What forms of tactile communication do you envision?
- What kinds of human connection would you wish to experience assuming data is local and under your control?
- Why do you think this type of interacting with data isn’t predominant?
- How do you think we can enable more human connection across distances?
- What does Democratic Design mean to you?
- What tools/projects does this talk remind you of?

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If you still have an unanswered question, please come find us afterwards!
We want to hear your perspective and experience!