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Session 3
Prof. Jon D. Unruh, Director, African Field Studies Semester Department of Geography, McGill University, Canada

Support Ukraine

Support Peace

Support Refugees

Support Justice

Support Restitution

Support Solutions

Peer social Foundation

Censorship and metadata-resistant connections & identity for refugees

From Rwanda to Bosnia, Sudan to Kosovo, Liberia to Sri Lanka, the critical importance of ensuring the realisation of refugees' and internally displaced persons' right to housing and property restitution has become increasingly recognised.

OHCHR - March 2007

10 percent of Africa's rural land is registered. The remaining 90 percent is undocumented and informally administered, which makes it susceptible to land grabbing, expropriation without fair compensation, and corruption. Again, these consequences fall hardest on women farmers who are often the only breadwinners in their families.

The World Bank - July 2013

2.4 million people have been forced to flee their homes due to wars and global weather crisis.

UNHCR - February 2022

2 billion people—over a quarter of the world's population—lack a fundamental human right: the right to property.

New America - February 2022

6.5 million refugees have fled Ukraine since the start of hostilities by Russia.

UNHCR - February 2022

The Problem

Housing, land, and property rights form the basis of any society. The ownership of property has historically been a tool for wealth building and the control of power and additional resources.

Insecure land rights also keep communities from mitigating and adapting to the impacts of climate change. These issues often stem, in part, from a lack of **verifiable and secure ownership documents**, inaccurate maps, and the inability of government agencies to record and defend property rights.

The Opportunity

Worldwide, billions of people cannot access the most basic benefits of property rights due to a lack of ownership documents, inaccurate maps, and ineffective government agencies to defend tenure security. Modern technology can greatly simplify the recording and defending of property rights at scale, yet these tools are not being properly utilized.

Tech innovators often misunderstand the policies, politics, and societies that their solutions must operate within, while government officials are often unaware or skeptical of available tools

"In an ideal way yes, [if you are a refugee], you would like your making of a claim to an authority to be private. But what we're seeing is that you don't get that because it's not in place yet. If there was a trusted digital platform that a refugee could engage to say, okay, I'm going to make my claim, I'm going to upload my evidence, including who I am, where I am, what exactly my evidence is and all these other people that will attest to me - we need that!

So, if you're unsure about having your data being divulged to one's enemies, then just keep it on your phone for now, but do gather it, do interview grandma before she passes away so she can give you the whole history of occupation of your land, and it could be corroborated - just keep it on your phone."

Dr. John Unruh - McGill University

The Problem

People are forced to rely on third party web services as identity brokers for our connections and to store our personal data.

Identity Brokers
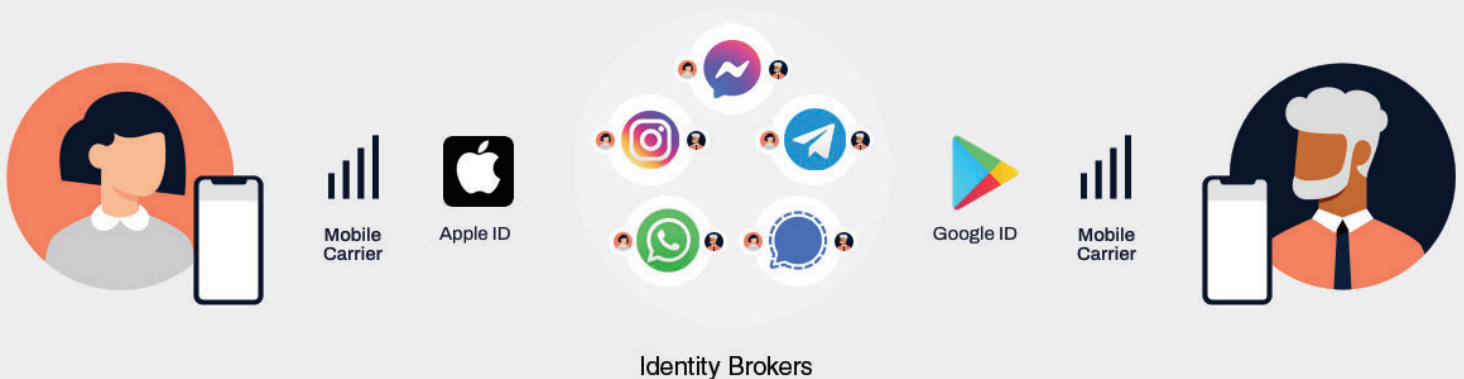
Third party web services are easily controlled or disabled

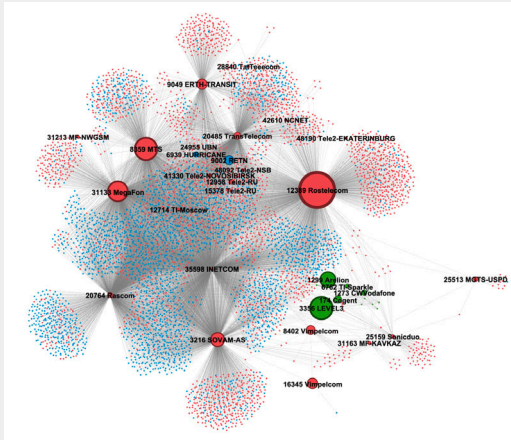Example - How can a government control the Internet?

Figure 1: Interconnections between networks in Russia (red nodes) and other networks either inside or outside Russia. Networks outside Russia are blue nodes. Tier1 networks are green nodes.

RIPE Labs

This graphic shows Internet connections in Russia. The **red** and **blue** nodes represent internal connections between Russian citizens. The **green** Tier 1 access nodes represent connections to the Internet outside Russia. Internet access to any public website can be controlled by operators of the **red** or **blue** nodes, who can explicitly block lookups of its DNS name, access to its IP address or network, or both.

- Access to the Internet outside Russia could be completely disabled by disconnecting the Tier 1 **green** nodes.
- All metadata and public posts by Russian users of **red** and **blue** nodes are effectively in the hands of the Russian government and susceptible to identification and intimidation.
- VPNs are often used to circumvent access restrictions imposed by Russian authorities, but VPNs are centralized and easily victim to network surveillance, subscriber requests, or bribery as they aggregate many users with similar anti-censorship objectives.
  - Ironically, using a VPN increases a users attack surface, creating a high-value target that explicitly collects information about the activities of its users.

How to bypass censorship and protect refugees privacy?

Create direct connections on a privacy-protecting, censorship-resistant and cryptographically-secure network.

Identity Brokers
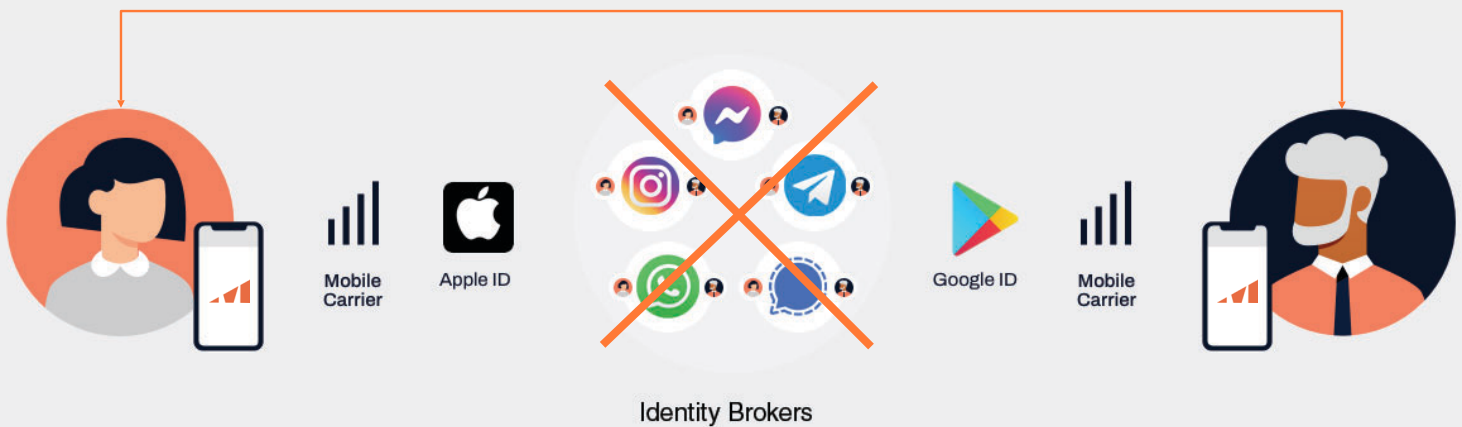
The Solution - Direct, Mobile, Peer to Peer connections over Tor
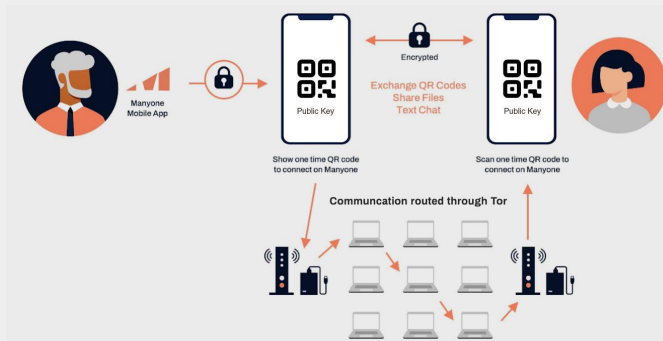
Each individual connection is created, encrypted and stored at source

Individual network connections are stored on users' mobile devices, not in third party servers susceptible to surveillance or blocking.

For users subject to censorship, individual mobile 'containers' are connected to the Internet via Snowflake

Snowflake: is an Internet access system designed to avoid censorship. Connections go through Snowflake proxies, which are run by volunteers.

This ensures user connections from mobile devices cannot be tracked or easily blocked.

For information about Snowflake, see their documentation wiki.

Transmit messages, pictures & files over Tor

The Tor project: represents 30 years of effort to create internet connections that don't reveal who is communicating with whom, even during active network monitoring.

The design of the Tor network protects the privacy of its users and makes the task of preventing users from accessing the Tor network nearly impossible. The Tor Project channels substantial resources to ongoing research of new ways to allow its users to circumvent censorship by powerful state and non-state actors.

What's Next? - Create & Share Digital Identity Attributes

Decentralized, Mobile, Individually Controlled Digital Identity

Add a digital identity attribute claims 'container' to mobile Tor-based connected nodes

Create claim of identity attributes including:
- Name, address, telephone, email
- Citizenship, passport, health, birth certificate
- Bank, KYC, credit card
- Land title, physical property

Share user attested identity claim attributes with other users over a P2P network whose design intrinsically resists tampering, censorship, and metadata analysis. (Snowflake via Tor)
- Users can give and receive confirmation of shared individual identity attributes.

Digital identity attribute 'container' is portable and can be backed-up and stored anywhere a user chooses:
- On a user's smartphone
- On a shared physical server
- On a shared Cloud virtual server
- On a home-based network-connected hardware device

Use Case: Peer Social Transitional Justice Home, Land and Property (HLP)
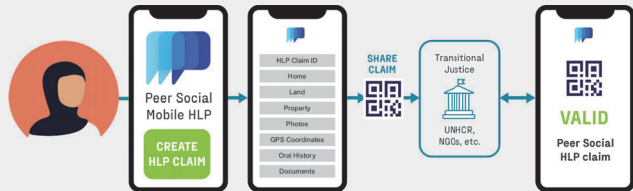
- **Whitepaper:** Trusted Records in Tapestry Approach: A Background Study to Inform System Design
- **Podcast:** Why Decentralization Matters: A conversation with Transitional Justice analyst Dr. Jon Unruh.
- **Presentation:** Digitally Designed Housing, Land & Property (DDHLP)

A supported, open-source Research & Development project to develop a *trusted* P2P mobile application to enable over 86 million refugees to document their existence for identity assertion, asset restitution or recovery under Transitional Justice.

Requirements for trust by refugees and displaced:
- **Decentralized** - does not require a third party to broker connections.
- **Mobile** - all data and connections *only* in possession of the end-user.
- **Robust** - data and connections must be censorship and metadata-resistant to ensure trust.
- **Archivally Sound** - Ensure that data is stored in an encrypted, decentralized, time-stamped and "hashed" tamper-resistant fashion so it cannot be viewed by hostile parties / governments.
- **Accessible** - Ensure that the record consists of photos, documents and audio & video attestations. Ensure that the contents of their record can be 'published' to a tamper-proof portfolio for review by third parties.

5 Year Development Roadmap

Domestic violence claim registry	Land and property registry	Peer to Peer victim support network
Sexual assault claim registry	Racism evidence registry	War crimes registry

An **Experienced Team** ready to Execute

Michael Cholod
Chief Executive Officer & Co-founder

Geoff Glave
Chief Product Officer & Co-founder

Edwin Ho
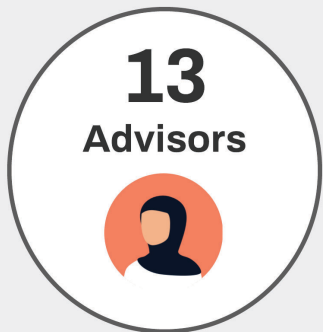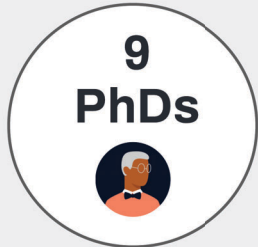Chief Financial Officer & Co-founder

Dr. Marcin Pawłowski
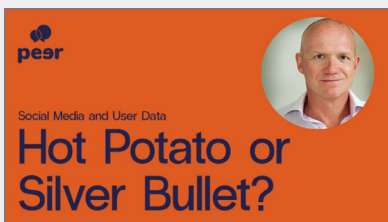Chief Technology Officer & Co-founder
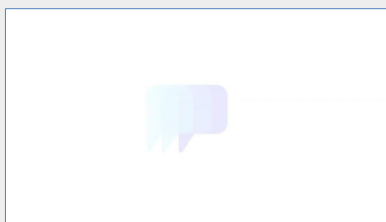
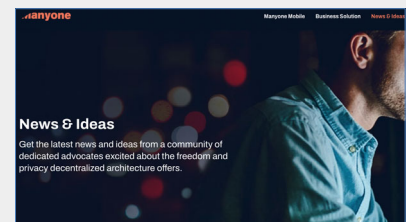**Dr. Geoffrey Goodell**
University College London

9 PhDs

13 Advisors

21 Contributors

100 years Management Experience

Thought **Leaders**

Featured Speaker

peer
Social Media and User Data
Hot Potato or Silver Bullet?

Thought Leadership

Identify People not Relationships - Dr. Geoffrey Goodell

140+ Blogs

Manyone Mobile | Business Solution | News & Ideas
News & Ideas
Get the latest news and ideas from a community of dedicated advocates excited about the freedom and privacy decentralized architecture offers.

Expert Testimony

Peter Wall Institute for Advanced Studies will host Witness Webinar on privacy rights and the COVID-19 pandemic
MAY 2, 2020

INFECTED
IMMUNE
HEALTHY

DIACC Spotlight

Spotlight on Peer Social
Jul 6, 2020 in *Member Spotlights* by *DIACC*
Spotlight on Peer Social

60+ Podcasts

The Decentralists
Mike Cholod, Henry Karpus & Geoff Glave

As big tech continues to exploit our personal data—more than ever, people are demanding control of their digital lives and asserting their self-sovereign identity. The solution is a decentralized internet—and we are here to talk about all things
Show More

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More

Help us **make a difference**

The Peer Social Foundation is recruiting people to join us as **'in-kind' collaborators**.
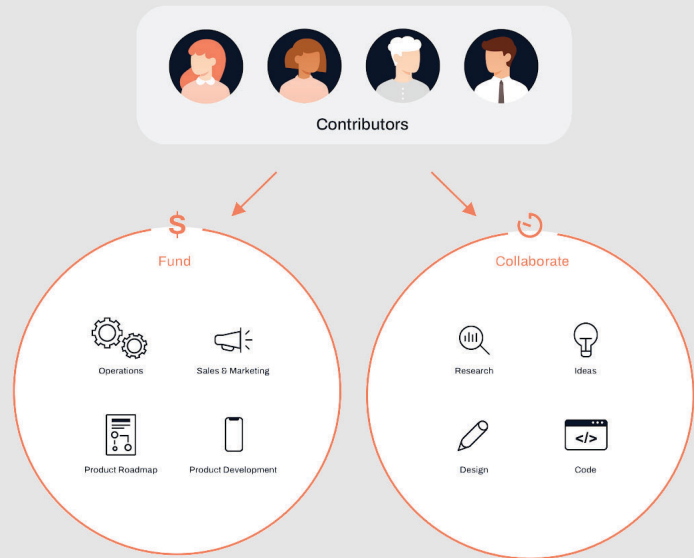
The Foundation is also actively seeking **investment and donations** to support operations, sales and marketing, product development and support for the Peer Social roadmap and open-source project.

If you are interested in contributing to the Peer Social Foundation in cash or 'in-kind' please reach out to us!

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Contributors

Fund

Operations   Sales & Marketing

Product Roadmap   Product Development

Collaborate

Research   Ideas

Design   Code

Thank **You!**

Peer social Foundation

Slava Ukraini**!**

Sustainable Recovery of Housing, Land & Property: Innovations in Policy & Technology

Dr. Jon Unruh
McGill University, Canada

- Forced dislocation from housing, land and property (HLP) - a primary result of climate change and conflict.
- Climate change and conflict has displaced over 84 million people (UNHCR).
- Conflict alone forcibly displaced 78.5 million (UNHCR).
- The largest conflict-related forced displacement: Syria (13.5 m) and Ukraine (12.8 m).

What do such numbers mean for sustainable recovery of HLP?
What is the role of policy and technology in recovery?

International 'Best Practice' prioritizes return & compensation for damaged/destroyed HLP

This usually involves:
- Mass claims techniques for quickly deciding hundreds of thousands to millions of HLP claims for restitution, compensation.
- Transitional Justice as legal foundation for restitution, compensation.

The difficulties include:
- Slowness of the claims process - older technology used.
- Slowness of the legal process - affected countries are slow to enact the appropriate laws.

Ukraine is a case where both difficulties can be overcome

Ukraine HLP Return & Compensation:
A techno-legal effort

Legal:
- Government is moving quickly to establish the legal framework for HLP compensation in anticipation of return and rebuilding.
- Includes legal endorsement of technology use for accelerating claims process.

The techno-legal…

Technology in HLP mass claims processing:
- Can very quickly establish database of claims.
- Empowering citizens to document & corroborate their HLP claims is a first step in sustainable reconstruction,
  - Citizen participation is difficult to disrupt because it is very decentralized.
- Accelerates establishing evidence patterns for deciding whole categories of claims at once,
- Can quickly assign value to categories of damaged/destroyed HLP,
- Quickly assigns compensation amount to claimants.

The overall HLP techno-legal effort is beginning to attract significant international attention and cooperation

Including:

- Technology and innovation hubs,
- Universities,
- NGOs,
- International Cluster groups,
- Private sector,
- Western donor countries.

Ukraine is positioned to set a new standard for war-affected sustainable HLP recovery

Broader Opportunities in Sustainable Recovery

- The Ukrainian HLP claims process is set to significantly advance international 'best practice' for compensation.
- The international donor community now has a head-start on what will certainly be a large-scale HLP mass claims process with international involvement.

- Exploring additional uses for the Ukrainian HLP claims process:
  - Calculating the total cost for HLP reconstruction and reparations, to inform belligerent actors, donors, governments.
  - Transfer 'best practice' of 'reconstruction cost' and compensation process to neighbouring states as a precaution.