

# Radical OpSec for Journalists

Information Security and Open Internet for All



Alice



Eve



Bob



Base



Private



Public

Swap



Alice and Bob share a colour.

Alice & Bob add private colours to the mix; Eve cannot!

Base

Private

Public

Swap

+

=

+

=

+

=

+

=

+

=

Party A

Internet

Party B

Common paint

Secret paint

Public secret

Exchange

Secret paint

Common secret



**Harlo Holmes**  
**NYTimes + Guardian Project**  
**@harlo**



**Aurelia Moser**  
**Ushahidi + Internews KE**  
**@auremoser**



**Ushahidi**



BY THE  
CITY  
FOR  
THE CITY

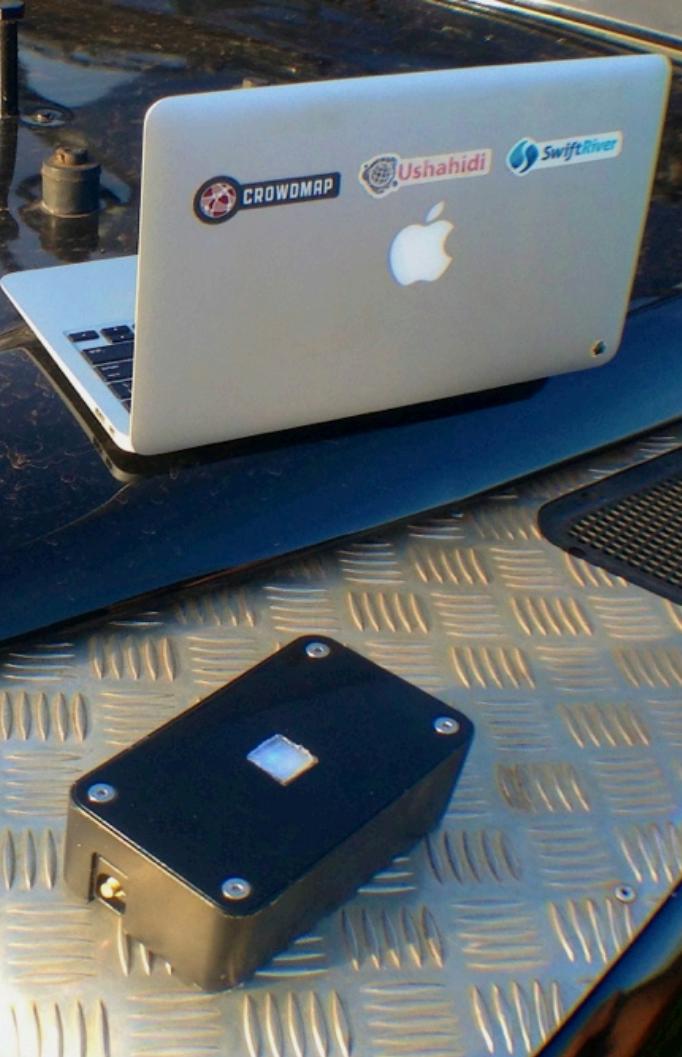
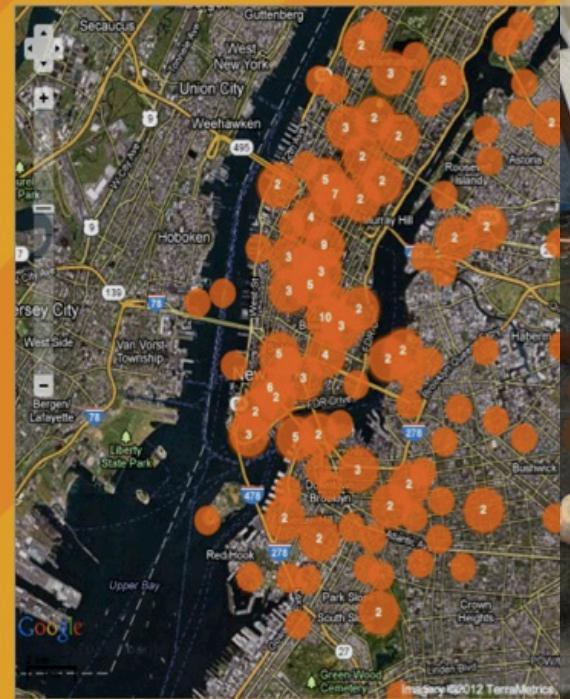
SUBMISSIONS  
DUE JULY 31ST!  
[CLICK HERE TO  
REGISTER!](#)

MAP OF IDEAS

LIST OF IDEAS

TRENDS

SHARE AN IDEA



# What + Why OpSec?

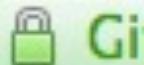
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# OpSec

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Operational Security is behavioral and technological effort to protect personal and source privacy, security, and safety

securedrop @ 51a5f06	added some stuff, mostly from GP, but also from Griffin...	a month ago
securereader @ 50d1bd5	added some stuff, mostly from GP, but also from Griffin...	a month ago
tabula @ 8bbc15f	with additions from dan p, manuel, and moxie	a month ago
text-to-bitmap @ 7c04fb0	added more repos from our superstar friends	a month ago



GitHub, Inc. [US] <https://github.com.mozilla/DroptLike>

README.md

# DroptLike

Some good software for those concerned about their OPSEC. Geared towards journalists, but good for everyone!

Something you'd like to see added? Want to start a discussion? You can send us patches, pull requests, or open up an issue right here.

## A Note of Caution (theory)

# OPSEC Principles

- Adopt a “burner mentality”
- Use developer resources + tech (APK, Source)
- Don’t talk about your work
- Don’t trust rumors
- Prepare for behavioral change

# Pakistan 2010



# Russia 2010



# Pakistan 2011-12



# Russia 2014



# Challenging Infrastructure



# Challenging Environments

UNRELIABLE POWER

UNRELIABLE CONNECTIVITY

HOSTILE ENVIRONMENT

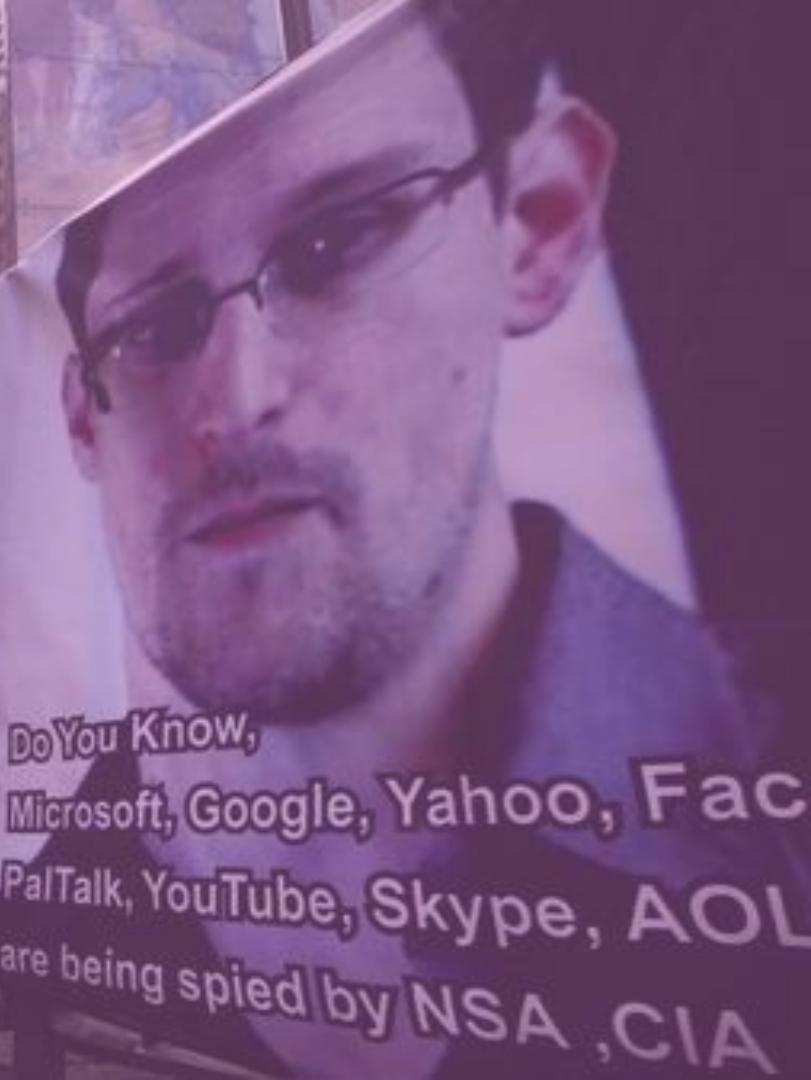
**Information security is as  
vulnerable to violation as  
physical security.**

**Journalists straddle both  
vulnerabilities.**



# OpSec Risks

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METADATA LEAKS  
(Rosen + Petraeus)

THREATENED SECURITY  
(Manning)

ACCIDENTAL DISCLOSURE  
(McAfee)

# OpSec Tools

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# CONNECTIVITY

# COMMUNICATION

# METADATA SECURITY

African Undersea Cables (2014)

# CONNECTIVITY

Occupy Here, Dan Phiffer, 2013



# BRCK

**Cloud-managed, full-featured modern router with GSM cell failovers to get you connected**

## FEATURES

- WIFI Bridge + Client Modes
- WPA/PSK, WEP Encryption
- 3G World Modem

## BATTERY

- 8 hr battery (full) 8 day battery (sleep)

## PORTS

- Ethernet LAN/WAN Port
- SIM Card Slot
- USB Host Port
- RP-SMA Antenna Connection : 3G/4G

## LINKS

- <http://www.brck.com/specification>

# Pirate Box



## PIRATE BOX

- DIY anonymous offline file-sharing system
- No logging or logins
- <http://piratebox.cc/>

## LIBRARY BOX

- Open Source, portable, digital distribution tool
- Fork of PirateBox for TP-Link MR 3020
- For libraries, emergency responders
- <http://jasongriffey.net/librarybox/>

Pirate Box  
Library Box  
Occupy Here

## OCCUPY HERE

- Self-contained darknet, lan network for anon info sharing
- <http://occupyhere.org/>

# Open Garden



FireChat

## OPEN GARDEN

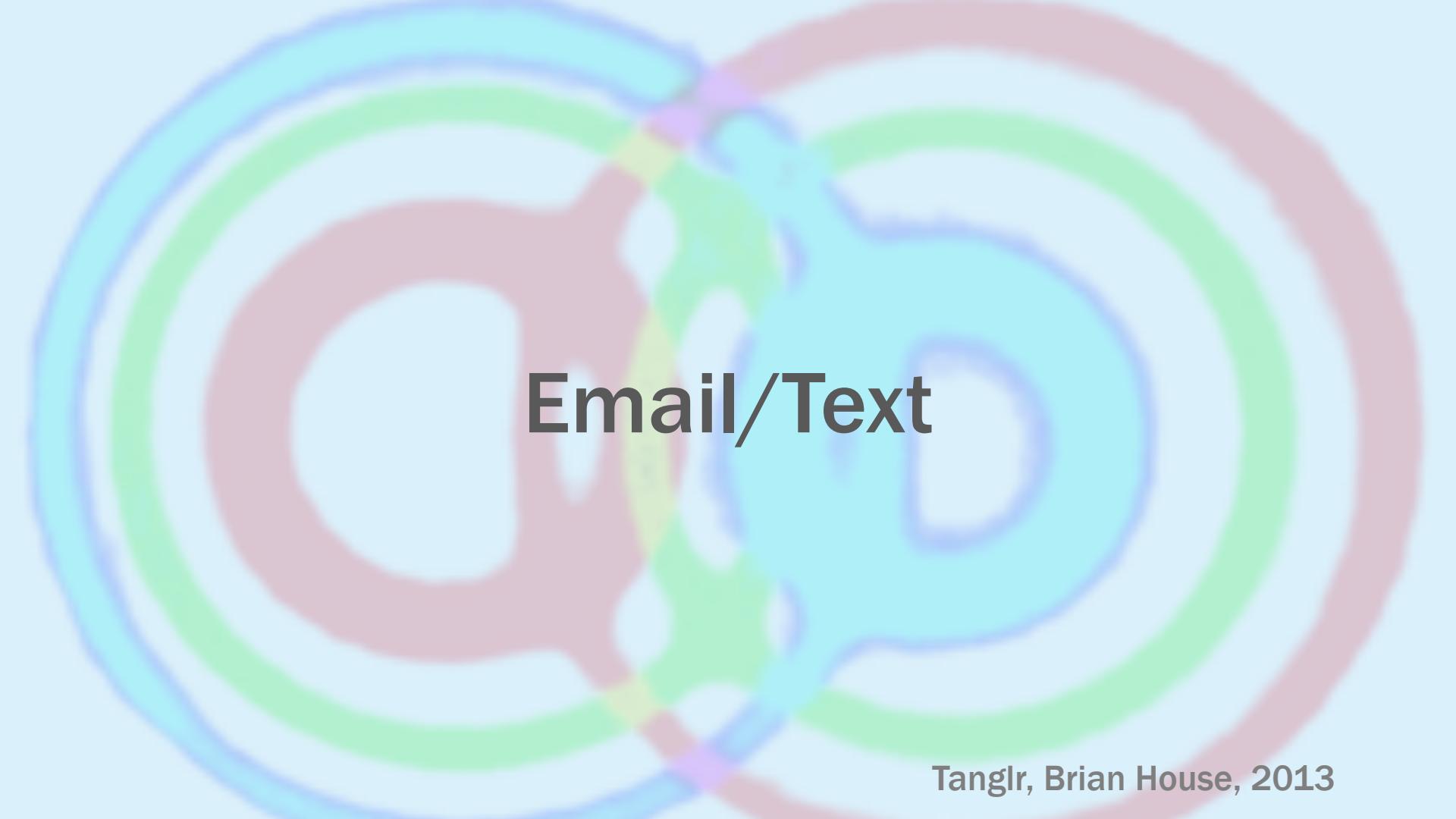
- Wireless mesh networking application
- Data from Bluetooth, Wifi, 3/4G simultaneously
- <https://opengarden.com/>

## FIRECHAT

- iOS/Android secure chat application
- Group chat without internet
- <https://opengarden.com/firechat>

# COMMUNICATION

Hot Probs, Sara Grant, 2013

The background of the slide features a complex, abstract design composed of numerous overlapping circles in various colors. The colors include shades of red, green, blue, and yellow, creating a vibrant, swirling pattern that covers most of the frame.

# Email/Text

# PGP

“Pretty Good Privacy”  
cryptographic privacy  
and authentication  
for data  
communication

## FEATURES

- Cross platform
- Allows for encrypting and decrypting by public key exchange

## SETUP

- Hook your email account to PGP software
- Thunderbird + Enigmail

## CAVEATS

- Does not protect metadata

## LINKS

- <http://www.pgpi.org/products/pgp/>
- <http://www.openpgp.org/>
- <https://pgp.mit.edu/>

# Chat

CryptoCat

Wickr

BitMessage/BitPost

Telegram

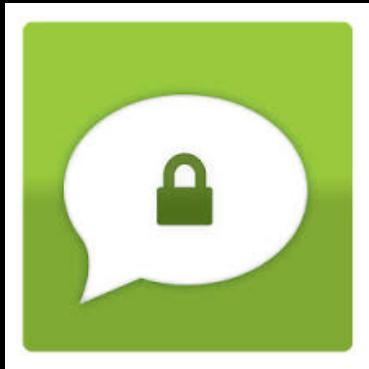
Threema

## LINKS

- <https://crypto.cat/>
- <https://www.wickr.com/>
- [https://bitmessage.org/wiki/Main\\_Page](https://bitmessage.org/wiki/Main_Page)
- <https://telegram.org/>
- <https://threema.ch/en>



# Text Secure



## FEATURES

- Android, soon iOS
- Open Source
- Private Group Chat
- Fast

## LINKS

- <https://whispersystems.org/>

Easy, friendly private  
messaging app



# Phone

Conversnitch, Brian House, 2014

# Ostel



**Public testbed of the  
OSTN project, to  
promote free open  
protocols for end-to-  
end secure voice  
communication on  
mobile**

## FEATURES

- Works on every mobile device
- Simple account registration
- ZRTP & SRTP encryption
- SIP signaling encryption
- Video calls

## LINKS

- <https://ostel.co/>
- <https://github.com/guardianproject/OSTel>

# RedPhone + Signal



Secure phone calls  
for free

## REDPHONE

- Free and open source; Android application
- End-to-end encryption for voice calls
- Uses wifi/data not voice minutes

## SIGNAL

- iOS equivalent to RedPhone

## LINKS

- <https://whispersystems.org/>

# Silent Circle



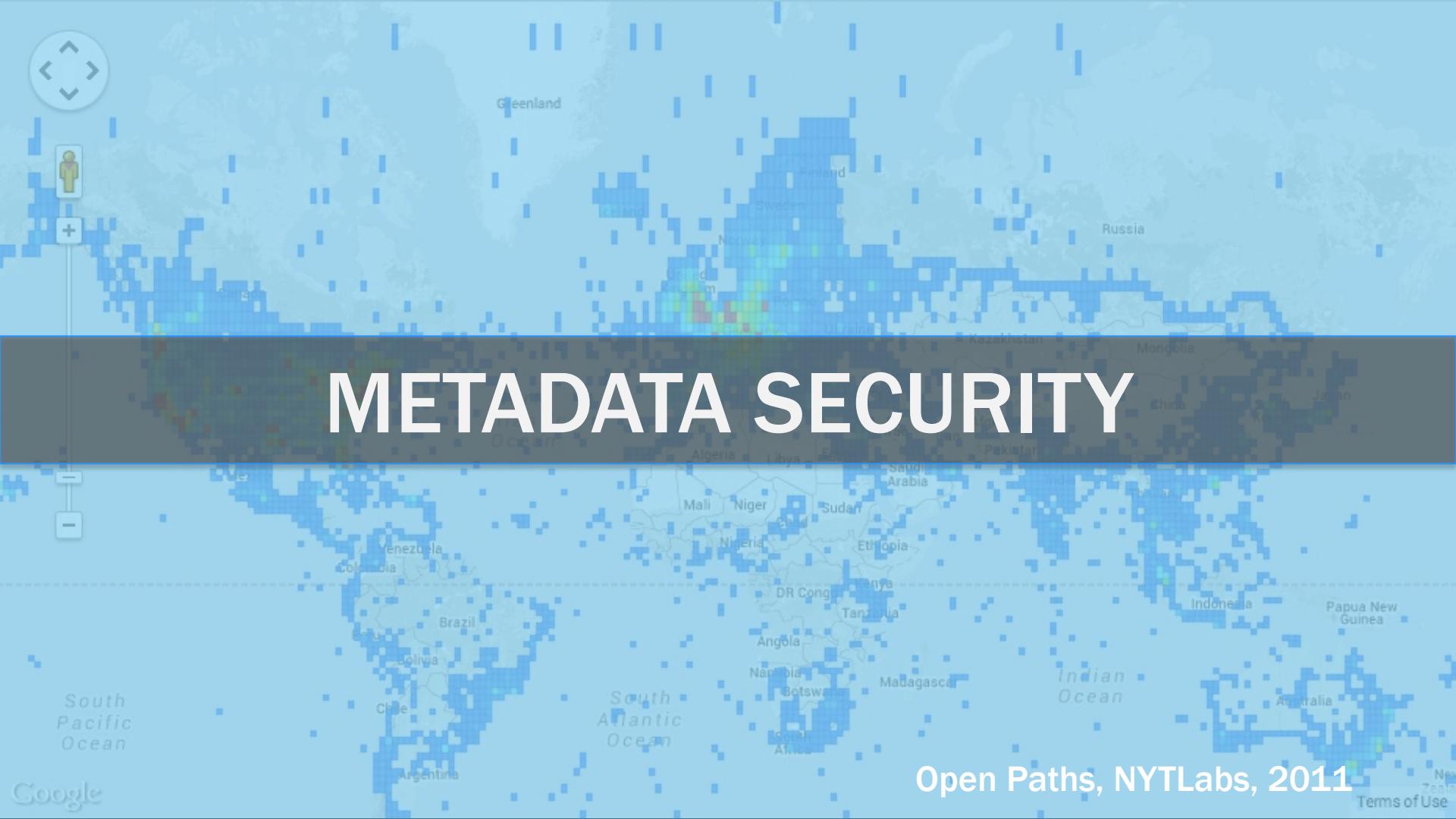
## FEATURES

- Low Cost subscription plans
- Silent Call/Text
- Peer-to-Peer platform of secure services on proprietary network

## LINK

- <https://silentcircle.com/>

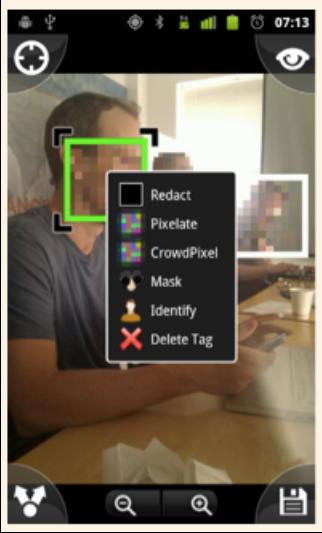
Encrypted calling  
plans for private  
communication



Open Paths, NYTLabs, 2011

Terms of Use

# Camera



InformaCam  
ObscuraCam

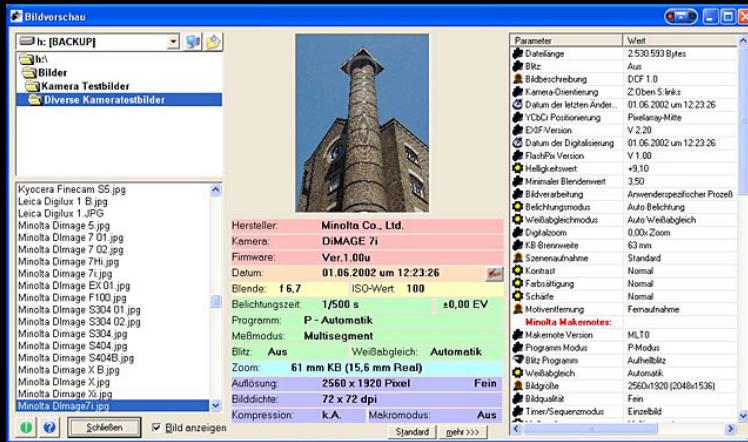
## INFORMACAM

- Mobile Application for Android
- Allows for inflating images with metadata
- Verified mobile metadata
- [https://github.com/guardianproject/  
InformaCore](https://github.com/guardianproject/InformaCore)

## OBSCURACAM

- Obscures mobile image metadata
- Pixelate/Redact faces
- [https://guardianproject.info/apps/  
obscuracam/](https://guardianproject.info/apps/obscuracam/)

# Metadata Schema



## EXIF

- Exchangeable image file format
- Photo/sound metadata standard for cameras

## IPTC

- International Press Telecommunications Committee
- Photoshop image metadata; builds on Adobe's XMP image encoder

EXIF

IPTC

# FDRIOD



## FEATURES

- Way to browse, install, and track updates for android apps

## LINK

- <https://f-droid.org/>

Free and Open  
Source Android  
Application  
Repository

The background of the image features a complex, abstract pattern of curved lines in shades of orange, yellow, and grey. These lines form a dense, organic network that resembles a stylized map or a microscopic view of a biological structure. The curves are smooth and fluid, creating a sense of motion and depth.

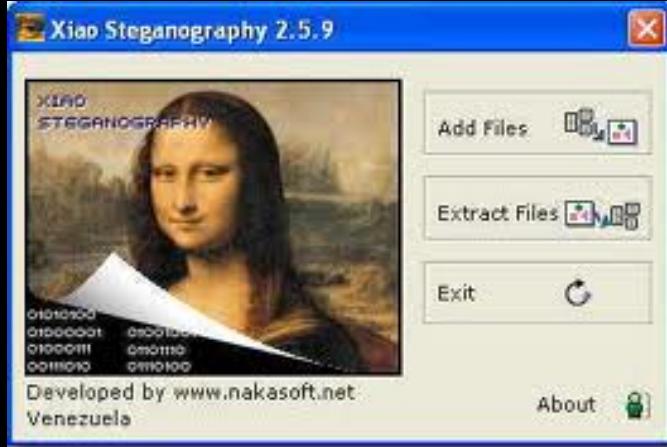
# ART && CODE

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NSA Mixtape, David Huerta, 2014

# Art of Hiding



## Steganography Stylometry

### DEFINITION

- the art of hiding signals in art/images
- the art of hiding stylistic nuance in writing

### EXAMPLES

- <https://code.google.com/p/f5-steganography/>
- GIFs
- <http://www.eberl.net/cgi-bin/stego.pl>
- <https://www.npmjs.org/package/stegosaurus>

# Art of Sharing



**MiniLock**  
**KeyBase.io**

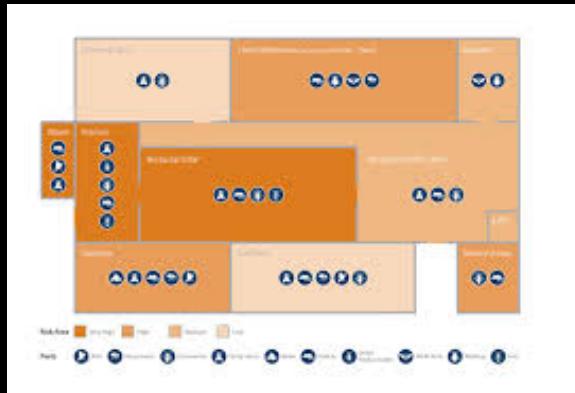
## MINILOCK

- Browser extension for encrypting files and sharing them
- Built by the developer of Cryptocat
- <https://minilock.io/>

## KEYBASE.IO

- Database of public keys connected to and verified by social media
- Alternative trust network for storing information and internet identity to KeyServers
- <https://keybase.io/>

# Art of Travel Privacy



## FEATURES

- Way of encrypting files locally, symmetrically
- Keeping your assets safe when on the move or in a foreign local

## LINK

- [https://github.com/harlo/hotel\\_safe](https://github.com/harlo/hotel_safe)

Hotel\_Safe

# Thank You!

A photograph showing a large number of circular lids from containers of paint or similar substances, arranged in a somewhat scattered pattern. The lids come in various colors including green, yellow, orange, red, blue, and pink. They are set against a dark, textured background.

Aurelia Moser  
@auremoser

Harlo Holmes  
@harlo

