

Mobile Tools for Citizen Journalists

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Images Define Conflict

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How many of you remember what started in Spring and Summer of 1989?



How many of you recognize this image?

Citizen Journalists?

Have Camera, will Share

Citizen Journalists

A Few Unique Traits...

- ♦ I'll define them, for now, as 'Having a Camera and a desire to document.'
- ♦ They operate alone
- ♦ No editorial standards or editors
- ♦ No obligation to objectivity or 'Truth'
- ♦ Could be agents or astro turf campaigns
- ♦ They are not protected by a news organization with any reputation
 - ♦ When they are detained, they have no-one to call for help

What do Cit. Journalists Need?

A few basic requirements

- ♦ A tool to take and upload media
- ♦ A place to publish
- ♦ Anonymity
- ♦ A series of tubes between device and publication service

What do Cit. Journalists Need?

A Publishing Platform

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A Publishing Platform

- ♦ Twitter, Facebook, Tumblr, Instagram, Blogger, Wordpress
- ♦ Quik, Youtube
- ♦ While they all need better SSL support, there is no lack of choices on this front
- ♦ Proxies could be better (as China, Iran, and other countries run firewalls)

What do Cit. Journalists Need?

Pseudo Anonymity

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Pseudo Anonymity

- ✦ Physical “Anonymity”
- ✦ Secure Communication
- ✦ A Relative Identity with which they can build trust
- ✦ Protection from False-Flag operations

What do Cit. Journalists Need?

Protection from Hardware Confiscation

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Protection from Hardware Confiscation

- ♦ Thugs have figured out that phones can get them in trouble
- ♦ Your media needs to be accessible if your hardware is destroyed

Examples:

- ♦ In Miami: a man hides SD card in his mouth before police smash his phone. He'd videotaped them shooting someone. They held him at gunpoint.
- ♦ Police (in America) have been arresting people videotaping them for violating wiretapping laws.

The Good News

Right now the 'Good Guys' are Technically Advanced

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- ✦ Arab Spring
- ✦ Occupy Wall-street
- ✦ Iran's Green Revolution

The most difficult technical challenges thus far are blackouts and firewalls

The Bad News

This Can't Last...

The Bad News

This Can't Last...

- ♦ There's good money in oppression
- ♦ The computing power and tools exist to filter massive amounts of internet traffic (the US government just isn't sharing right now)
- ♦ Telecoms will (if they haven't already) start working with governments to target dissidents
- ♦ Blacking out the internet globally (or locally) is getting easier
 - ♦ The FBI has the ability to shut down local cell networks (but they aren't sharing this with the police...yet)

So I asked myself:
As a Dumpy Programmer in Brooklyn,

What Can I Do?

A Simple Tool

Background Uploading of all Media

A Simple Tool

Background Uploading of all Media

- ✦ Uploads photos as soon as they're taken from any app on Android and from a specific application on the iPhone
- ✦ Web-side service emails those images to 3 email addresses specified by app
- ✦ Provides simple media protection from device confiscation
- ✦ Original idea inspired by the Android Google + application
- ✦ Status: Working proof of concept

What Else We've Got so Far

A Few Other Tools Worth Mentioning

- ♦ Quik (realtime video upload)
- ♦ Twitter (flash organizing tool)
- ♦ Facebook (fantastic for raising awareness)
- ♦ Tumblr (building a participatory movement: the 99%)
- ♦ TOR (anonymous ip traffic)

They All Share a Common Weakness

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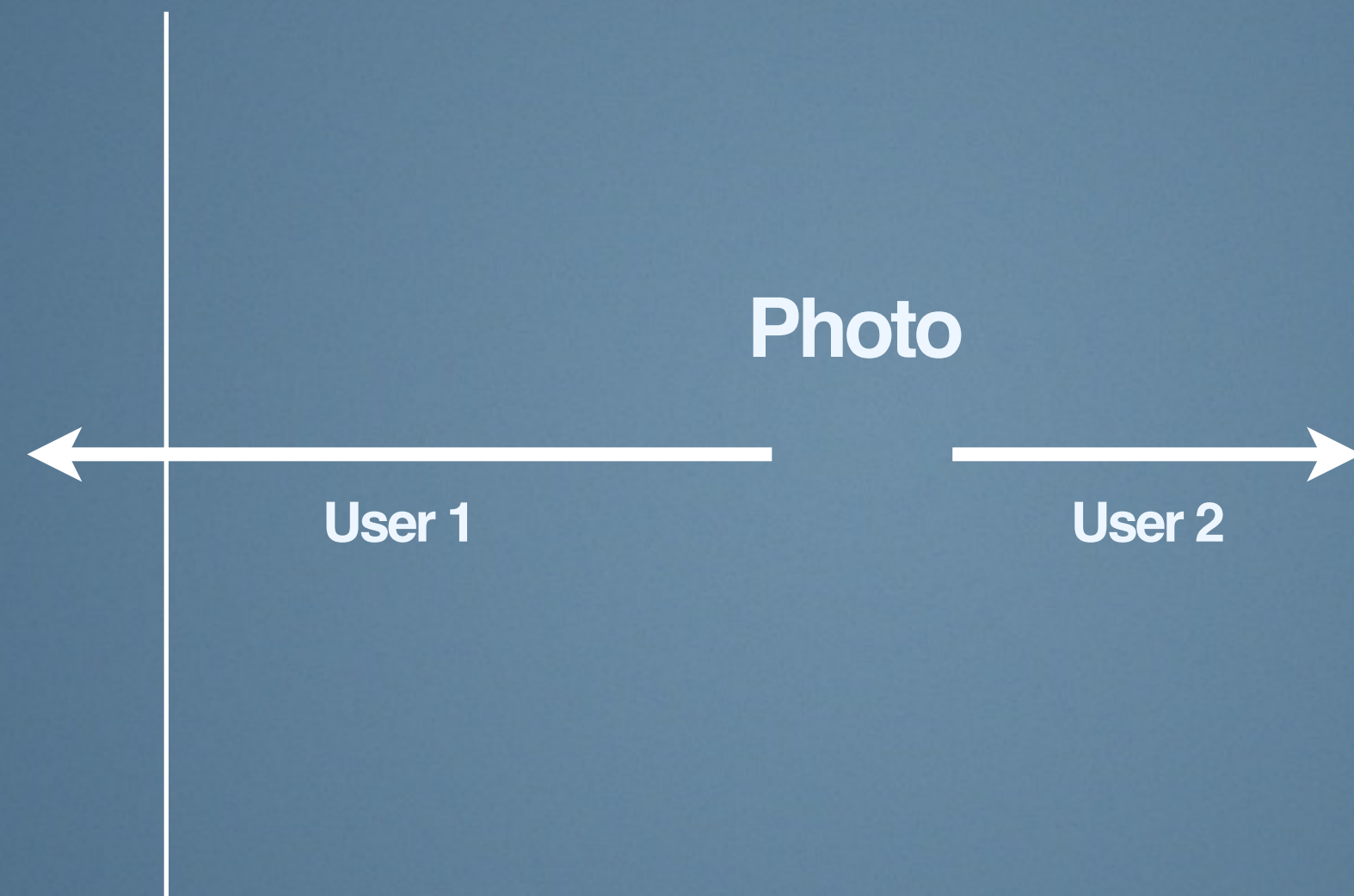


The Solution?

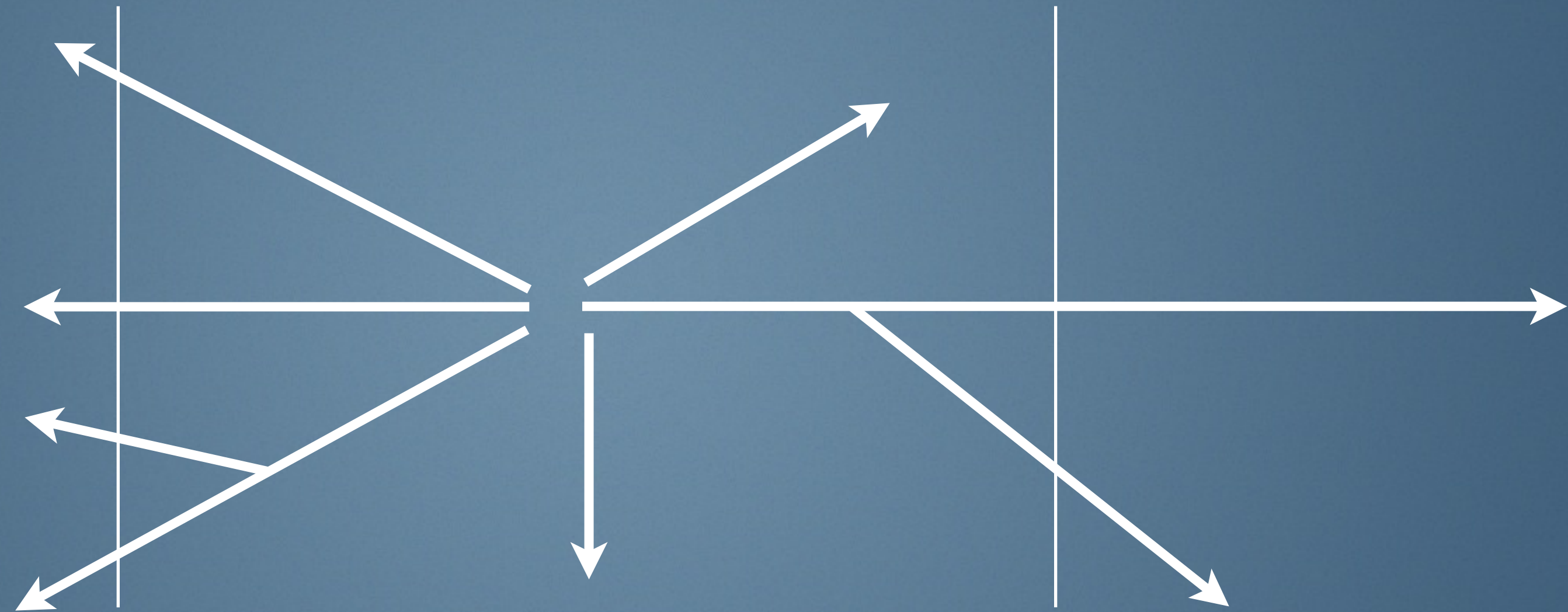
The Solution?

A Sneaker Net

Internet Blackout



Internet Blackout



Sharing Media Locally

Files Can be Passed Between Devices

- ✦ Files allow for rapid dissemination of volatile data
- ✦ Only one device containing media has to get online to upload
- ✦ Device to Device (bluetooth, USB cable, ad-hoc wifi, IR port, SIM card Audio Port)
- ✦ Dead Dropped (bury or swallow, or hide a micro SD card full of files)
- ✦ Transfers must be fast, simple, and have some selectivity
- ✦ Must be doable while running, quite literally.
- ✦ Cross platform as much as possible
- ✦ However, this does not allow for any kind of individual identity, they're just all images...

Adding Identity to the Sneaker Net

Beating Internet Blackouts: Project Dispatch

Adding Identity to the Sneaker Net

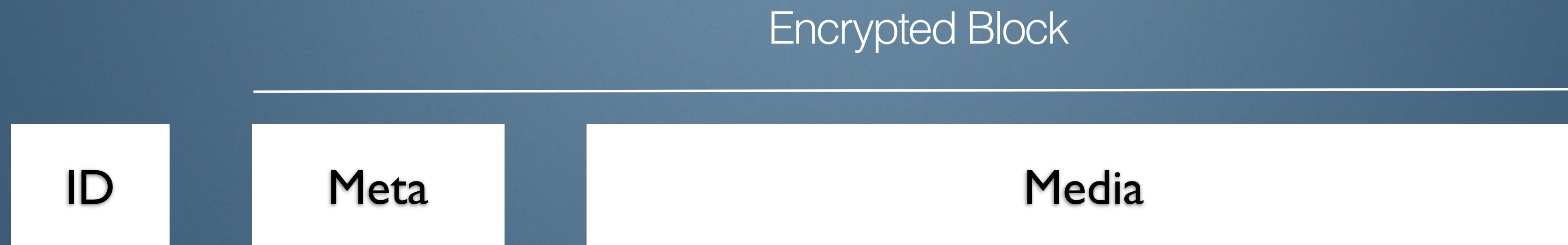
Beating Internet Blackouts: Project Dispatch

- ♦ Server and Mobile Client Securely agree on a Key and Identifier prior to entering the blackout
- ♦ All Dispatch files are encrypted with this key and then stored locally
- ♦ Encrypted files are then shared between any number of devices
- ♦ As soon as any device gets online, it uploads all its accumulated dispatches
- ♦ The Dispatch Service is the only entity that can understand, decrypt, and publish these files
- ♦ Service acts as a middle man between clients and publishing service (twitter, facebook, blogger, tumblr, youtube...) but would ideally be PART of these publishing platforms

A Dispatch

A Message with 3 Parts in a Very Encrypted Bottle

- ✦ Identifier: Allows server to quickly look up decryption key
- ✦ Meta Block: What to do with the media once it's decrypted
- ✦ Media Block: The media (image or video) to be sent



Dispatch

A Pre-Authenticated Semi-Viral Sneaker Net

- ♦ Allows for rapid dissemination of small media files for eventual upload
- ♦ Sneaker-Net service must sync easily (QR code scan, NFC chip tap, usb cable, Audio cable)
- ♦ Is not particularly original, or complicated
- ♦ It is still vulnerable to a couple attacks (floods, tampering)
- ♦ The Web Service itself is probably the most vulnerable point
- ♦ Sneaker-Net tools could be built independently from the central Dispatch service
- ♦ Sneaker-Net capability could be built into mainstream client apps (g+, twitter, tumblr, facebook)
- ♦ Could be used for any number of other bad uses

Other Possible Projects

Just In Case That Isn't Enough Work...

- ♦ Panic/Arrested button:
 - ♦ Waiting until they get back online to send the panic text/email/twitter/tumblr/facebook
 - ♦ Including a GPS location with the panic and keeps updating for as long as possible
 - ♦ Dead-Man-Switch phone sends out panic if a user checkin is missed
- ♦ Media/Event verification: Letting someone anonymously say “I was there, I saw that too!”
- ♦ Better pseudo identity verification tools to help traditional reporters verify anonymous sources
- ♦ Better tools to allow reporters to curate citizen journalist's reports

Questions?

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