uProxy: a Social Proxy for your Browser

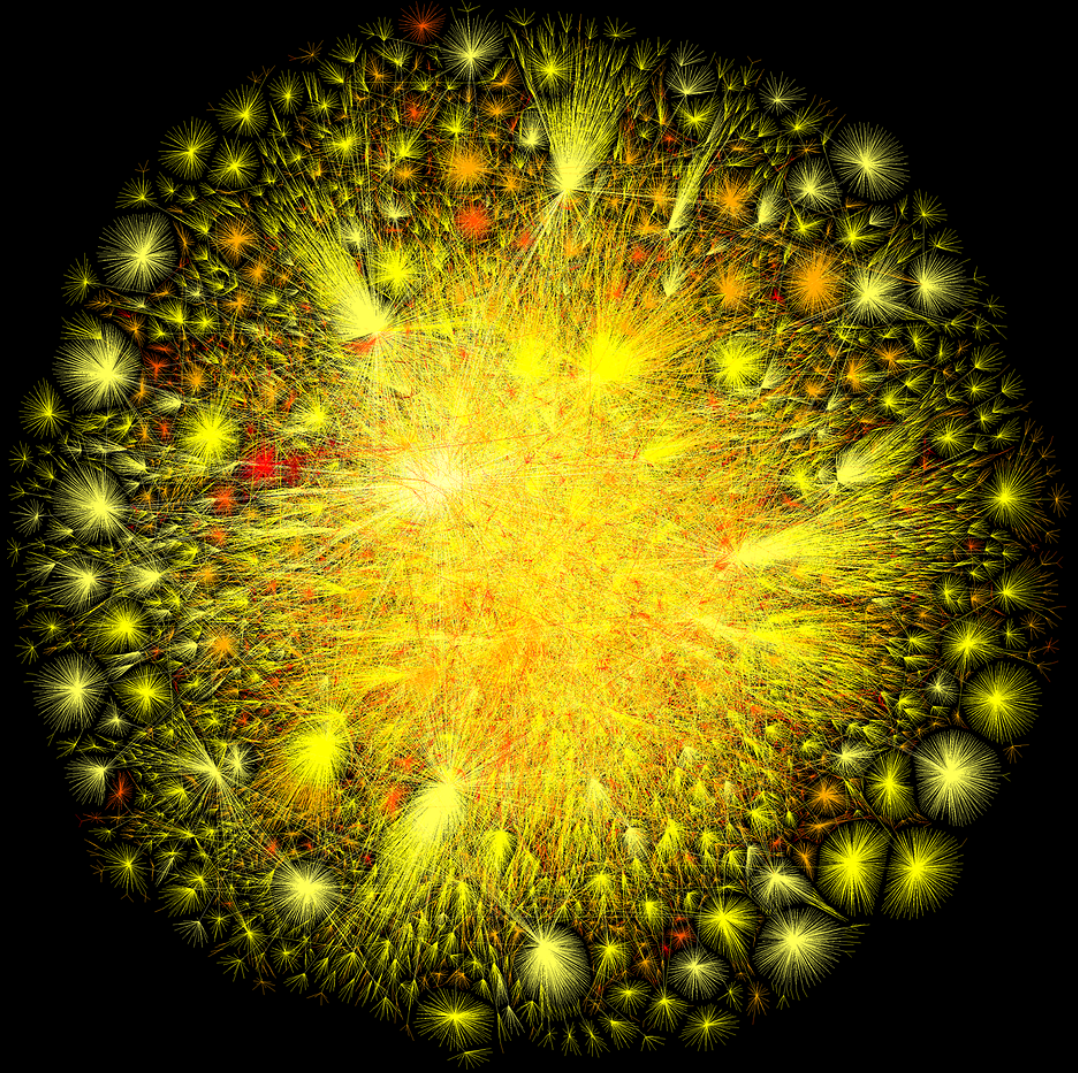
Raymond Cheng, Will Scott, Aaron Gallant,
Tom Anderson, Arvind Krishnamurthy
University of Washington
Seattle, WA, USA

with help from our friends at Google Ideas

Takeaways

- Users need more control over their paths on the Internet

- uProxy is a browser extension that lets users securely tunnel traffic through a friend’s computer

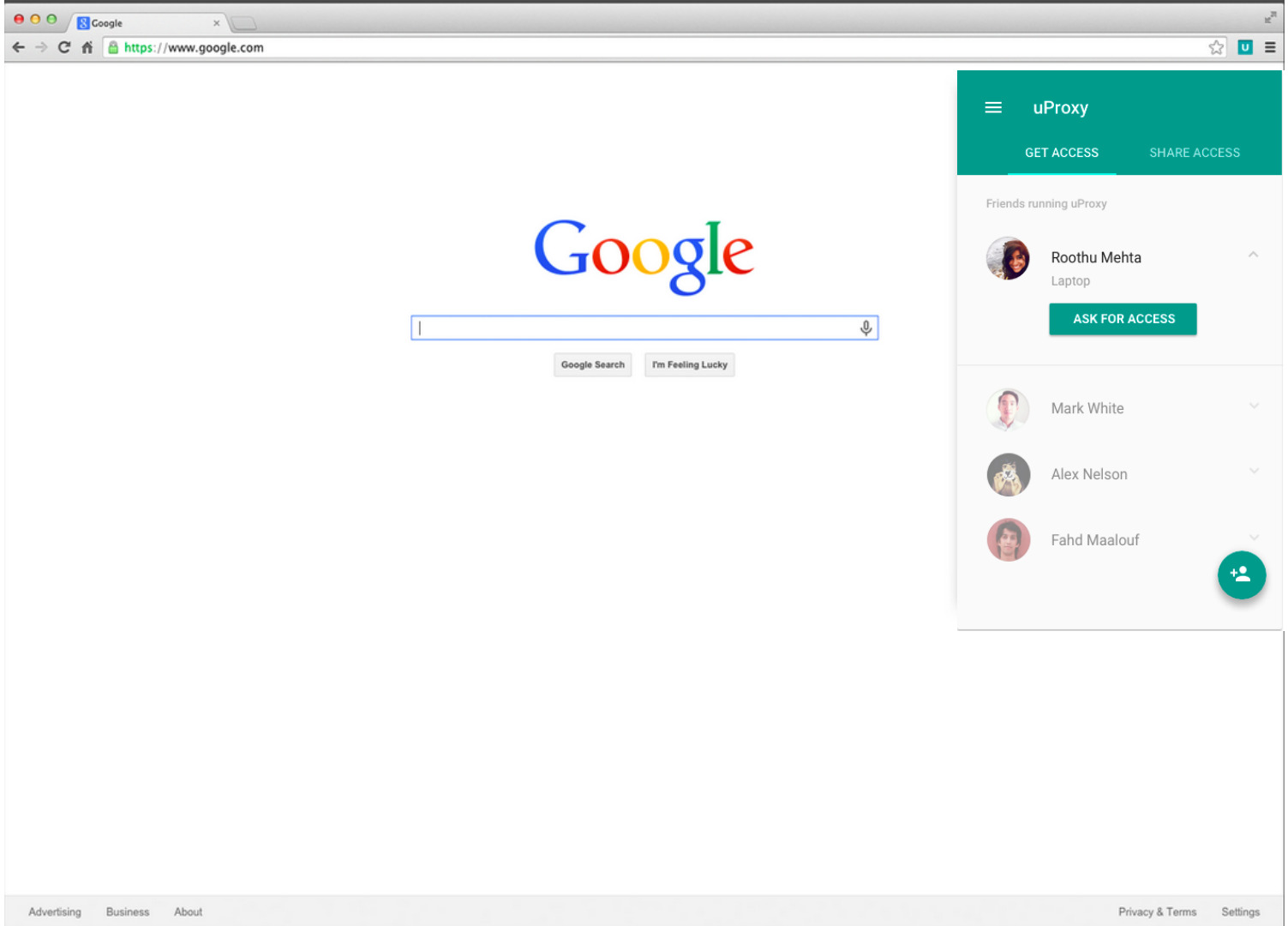


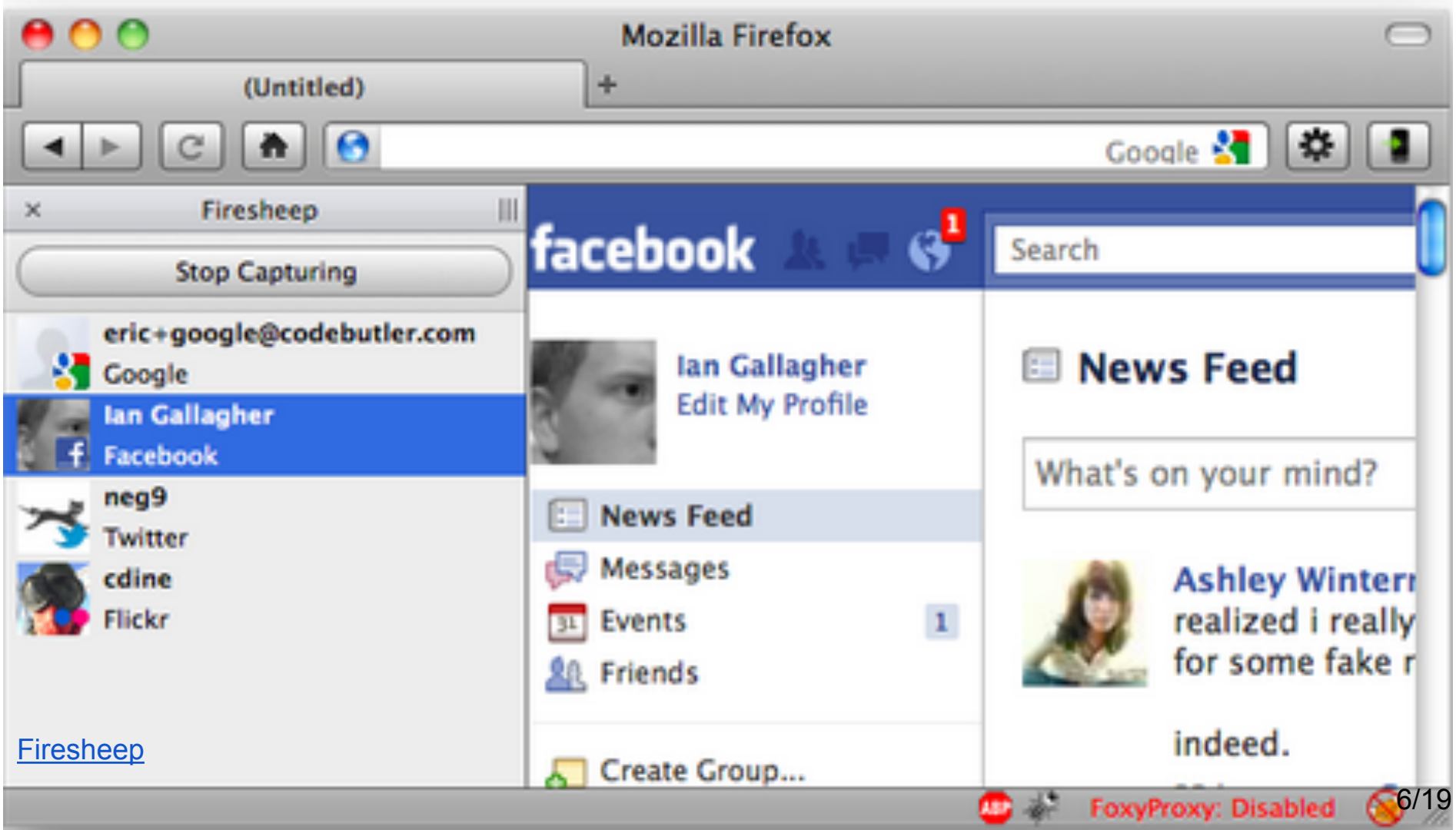
Opte Project

Takeaways

- Users need more control over their paths on the Internet

- uProxy is a browser extension that lets users securely tunnel traffic through a friend’s computer


Google
https://www.google.com
Google
Google Search
I'm Feeling Lucky
uProxy
GET ACCESS
SHARE ACCESS
Friends running uProxy
Roothu Mehta
Laptop
ASK FOR ACCESS
Mark White
Alex Nelson
Fahd Maalouf
Advertising
Business
About
Privacy & Terms
Settings


Mozilla Firefox
(Untitled)
Google
Firesheep
Stop Capturing
eric+google@codebutler.com
Google
Ian Gallagher
Facebook
neg9
Twitter
cdine
Flickr
facebook
1
Search
Ian Gallagher
Edit My Profile
News Feed
Messages
Events
1
Friends
Create Group...
News Feed
What's on your mind?
Ashley Winter
realized i really
for some fake r
indeed.
FoxyProxy: Disabled

Firesheep

The Washington Post

Tech

Agreements with private companies protect U.S. access to cables' data for surveillance

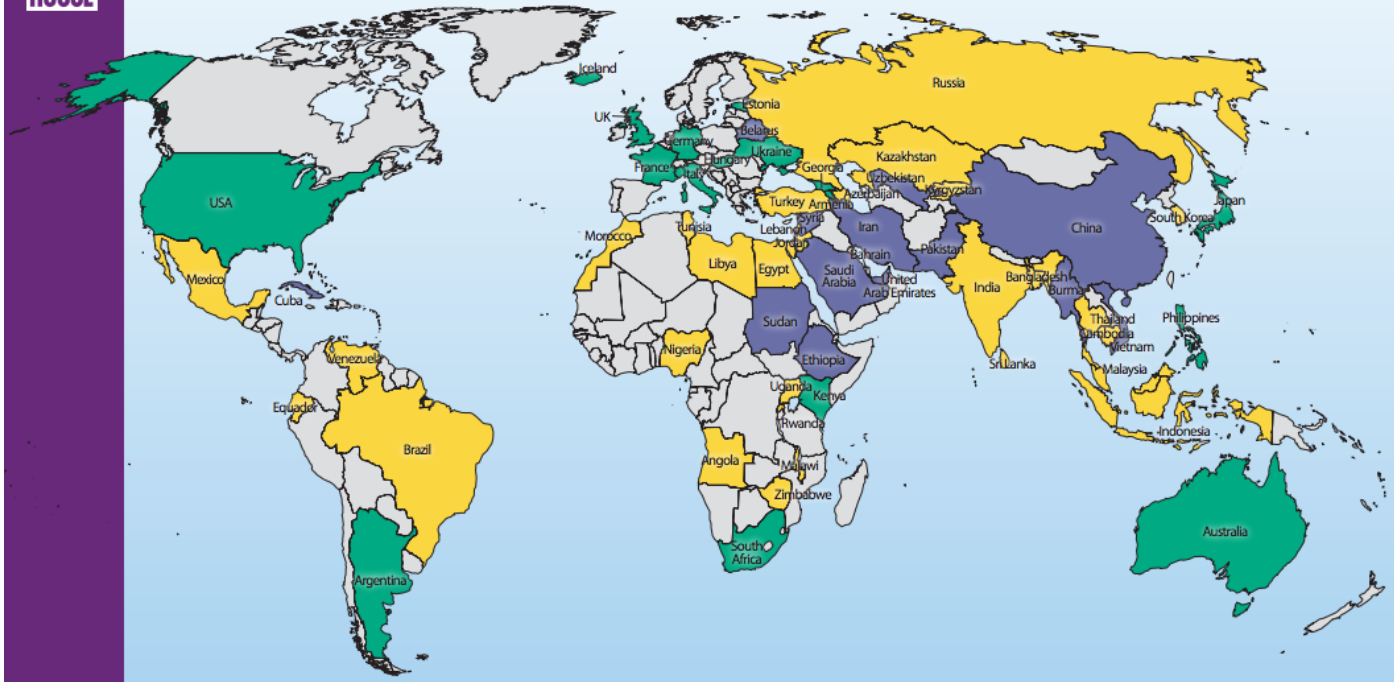
By Craig Timberg and Ellen Nakashima July 6, 2013

The U.S. government had a problem: Spying in the digital age required access to the fiber-optic cables traversing the world's oceans, carrying torrents of data at the speed of light. And one of the biggest operators of those cables was being sold to an Asian firm, potentially complicating American surveillance efforts.

Firefox
L1-5
http://fa.wikipedia.org/
Google
Feedback
بسم الله الرحمن الرحیم
با استناد به قانون جرایم رایانه ای
دسترسی به تارنمای فراخوانده شده امکان پذیر نمی باشد.
رسیدگی به گزارشات و شکایات: filter@dci.ir
پیوندها :: WWW.PEYVANDHA.IR :: پیوندها
فرهنگی و مذهبی
خبری
خانواده
سرگرمی و علمی
خدمات اینترنتی
» قرآن
» واحد مرکزی خبر
» ازدواج
» بازی های رایانه ای
» ساماندهی
Done
WJ Disabled

FREEDOM ON THE NET 2013

A GLOBAL ASSESSMENT OF INTERNET AND DIGITAL MEDIA



Freedom on the Net 2013 assessed 60 countries around the globe. The project is expected to expand to more countries in the future.

Partial Internet Outages are Common

- Measured 2M outages over 2 months
  - 79% were partial
- 10% of outages lasted over 10 minutes
- Variety of causes:

  route convergence delays, pathological routing policies, misconfiguration, prefix hijacking, route injection, router bugs, DDoS

Katz-Bassett, Ethan, et al. "LIFEGUARD: Practical repair of persistent route failures." *ACM SIGCOMM Computer Communication Review* 42.4 (2012): 395-406.

Why now?

Why now?

Social networks

Why now?

Social networks

Widely Available Platforms

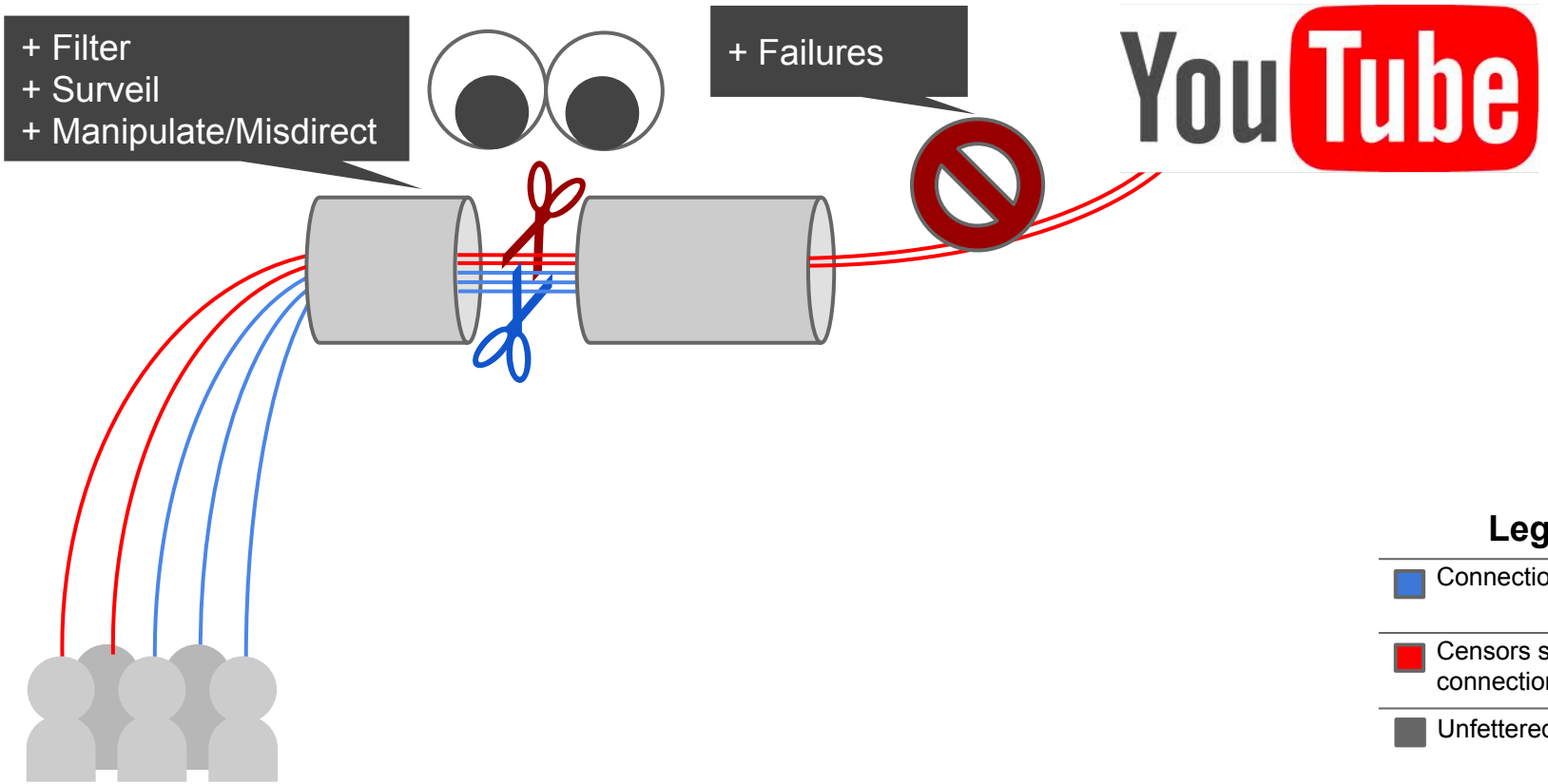
Why now?

Social networks

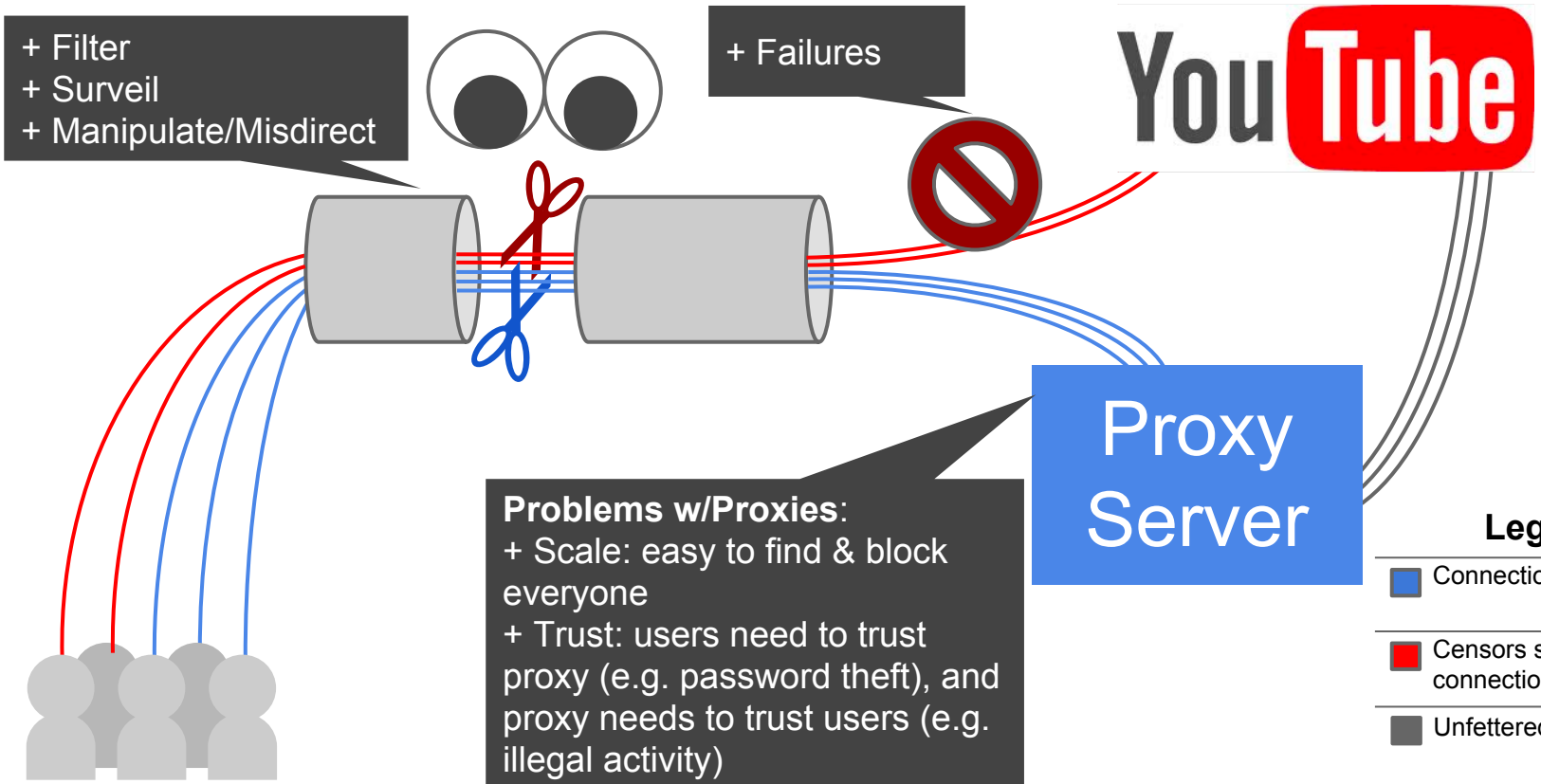
Widely Available Platforms

Web Standards

Centralized proxies

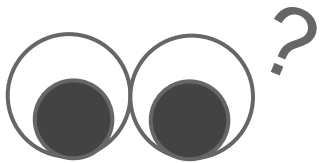


Centralized proxies

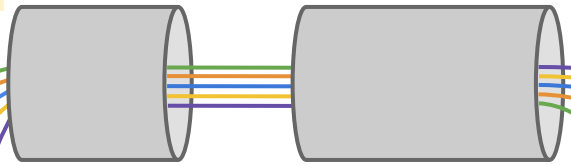


uProxy: an experiment in distributed proxying

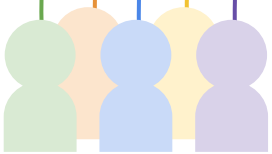
1. XMPP/Chat/Email/Social connects users; HTML5 WebRTC transports data; encryption and obfuscation, hides data from attackers.



3. Share your internet connection's security and access with trusted friends and family.



2. Access and security through social network-based trust; also potential to cache/speed up connection.

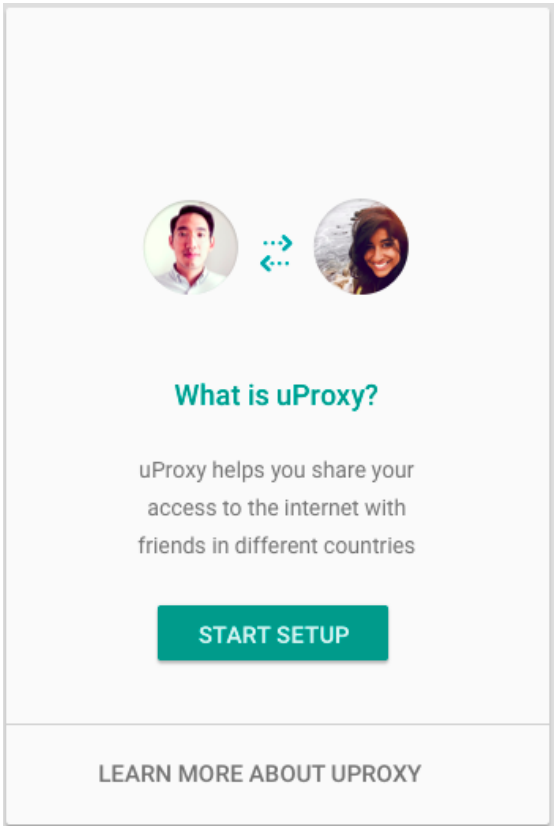


Users in unsafe environment

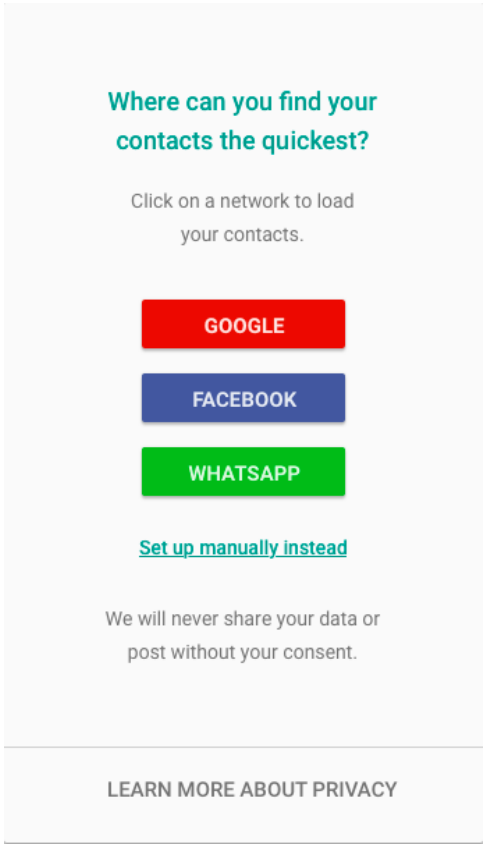
Users in safer environment

User Experience Design Mocks

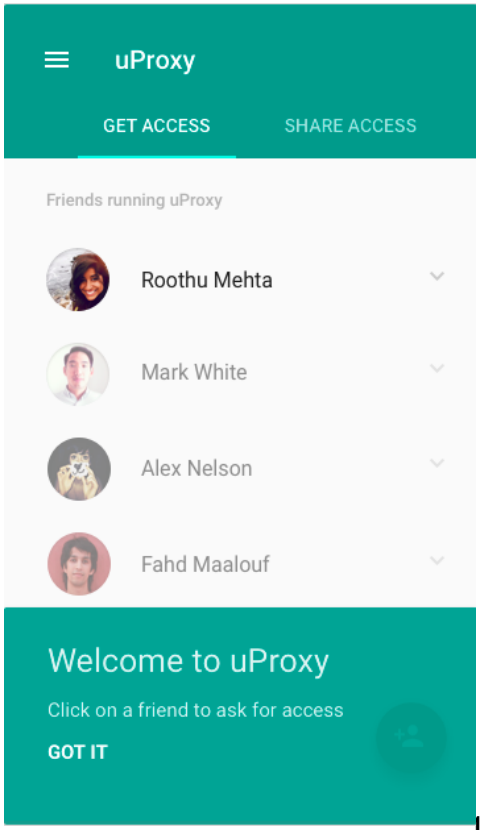
Explanatory intro screens



Connect to social networks

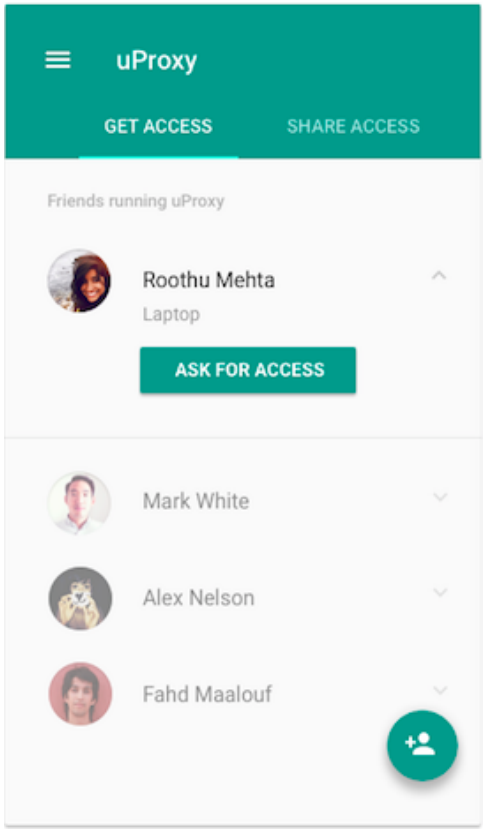


Home Screen

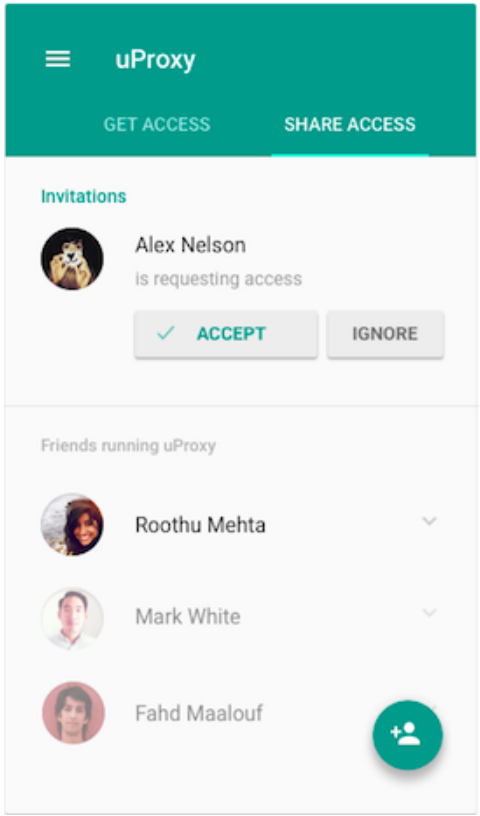


User Experience

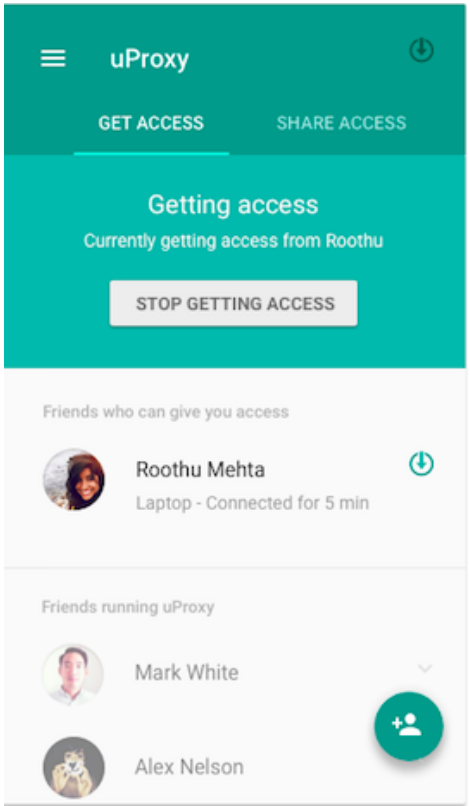
Request Access (Alex)



Accept Request (Roothu)

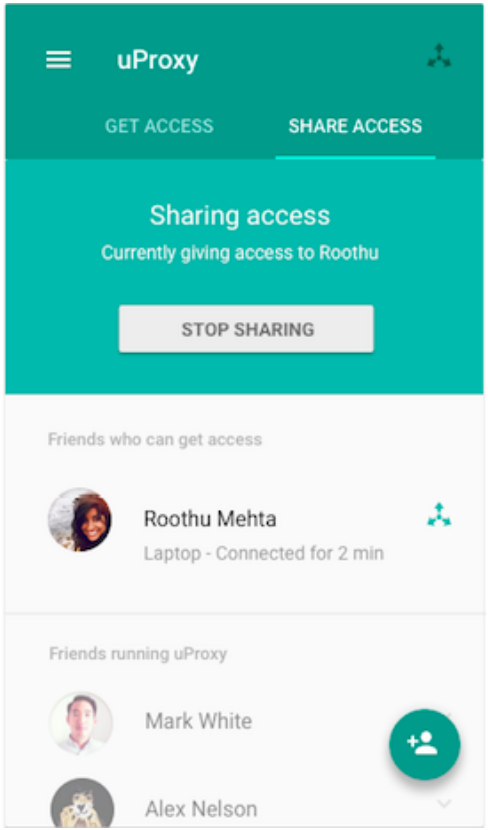


Connection Active (Alex)

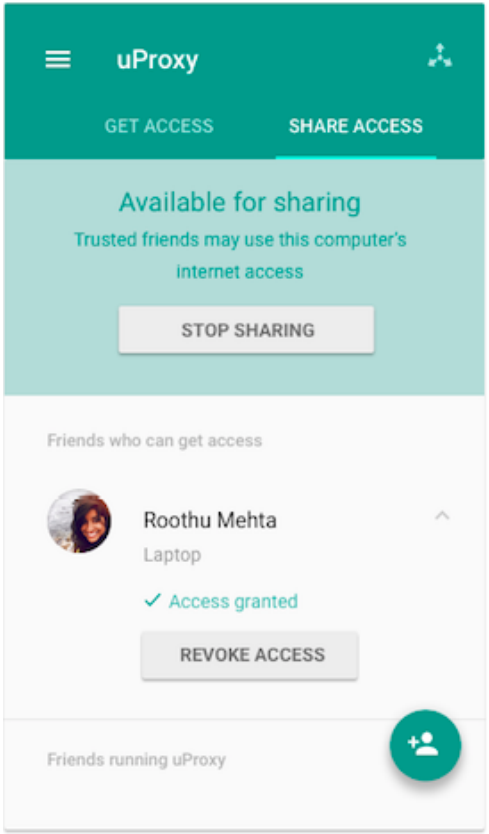


User Experience

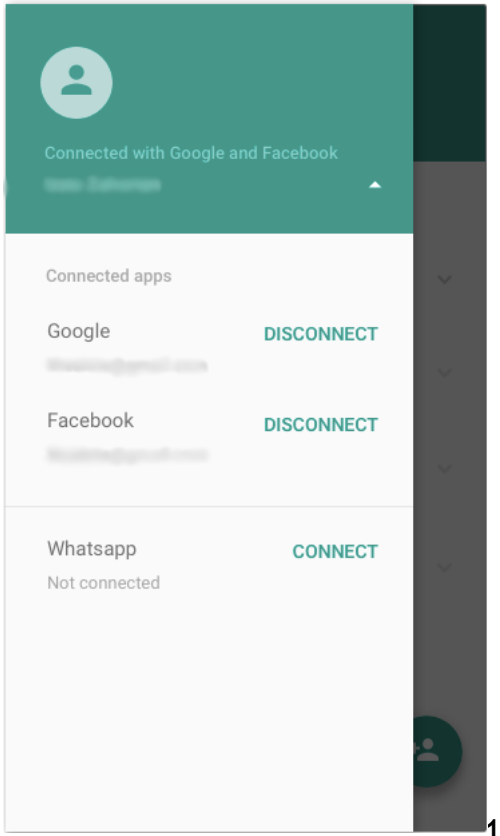
Active Connection



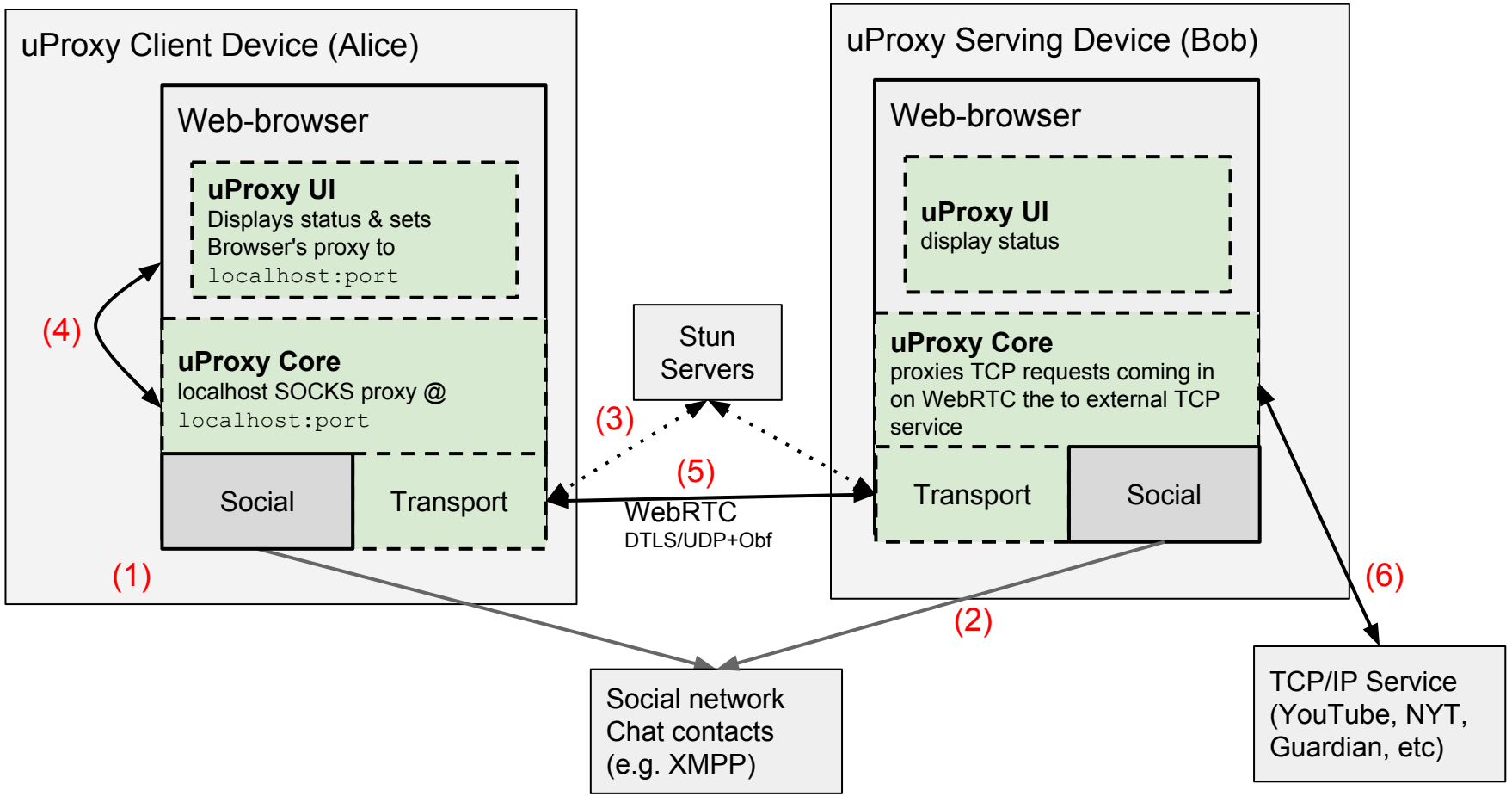
Stop access



Settings



Architecture



Luchaup, Daniel, et al. "LibFTE: a toolkit for constructing practical, format-abiding encryption schemes." *Proceedings of the 23rd USENIX conference on Security Symposium*. USENIX Association, 2014.

Progress

2013

- Initial support for reliable WebRTC data channels
- Prototype demonstrated at Google Ideas Summit

2014

- UX redesign
- Chrome/Firefox extensions
- Staff up team
- Security reviews
- Open source on GitHub
- Obfuscated WebRTC

Looking Ahead

Publish to the WebStore

uProxy Mobile Client

uProxy for Cloud

Plugin support

- social networks
- alternate network transport protocols
- proxy service interfaces

uProxy: Share Your Pathway to the Internet

https://www.uproxy.org
https://github.com/uproxy

info@uproxy.org