

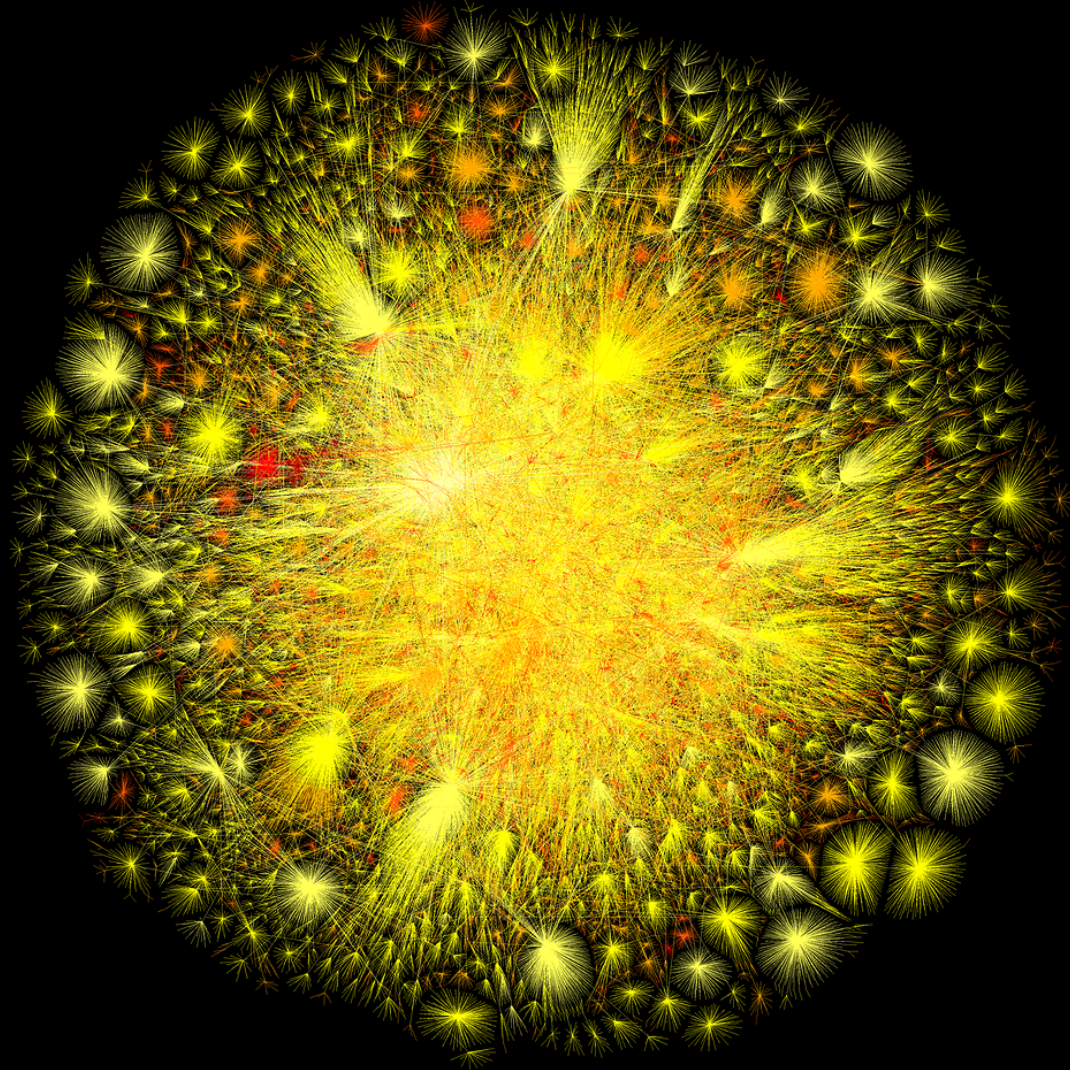
uProxy: a Social Proxy for your Browser

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



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 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





Mozilla Firefox



(Untitled)



Google



x Firesheep

Stop Capturing

eric+google@codebutler.com
Google

Ian Gallagher
Facebook

neg9
Twitter

cdine
Flickr

[Firesheep](#)

facebook

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



6/19



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.

بسم الله الرحمن الرحيم

با استناد به قانون جرایم رایانه ای
دسترسی به تارنمای فراخوانده شده امکان پذیر نمی باشد.

رسیدگی به گزارشات و شکایات: filter@dcf.ir

پیوندها :: WWW.PEYVANDHA.IR :: پیوندها

خدمات اینترنتی

« ساماندهی

سرگرمی و علمی

« بازی های رایانه ای

خانواده

« ازدواج

خبری

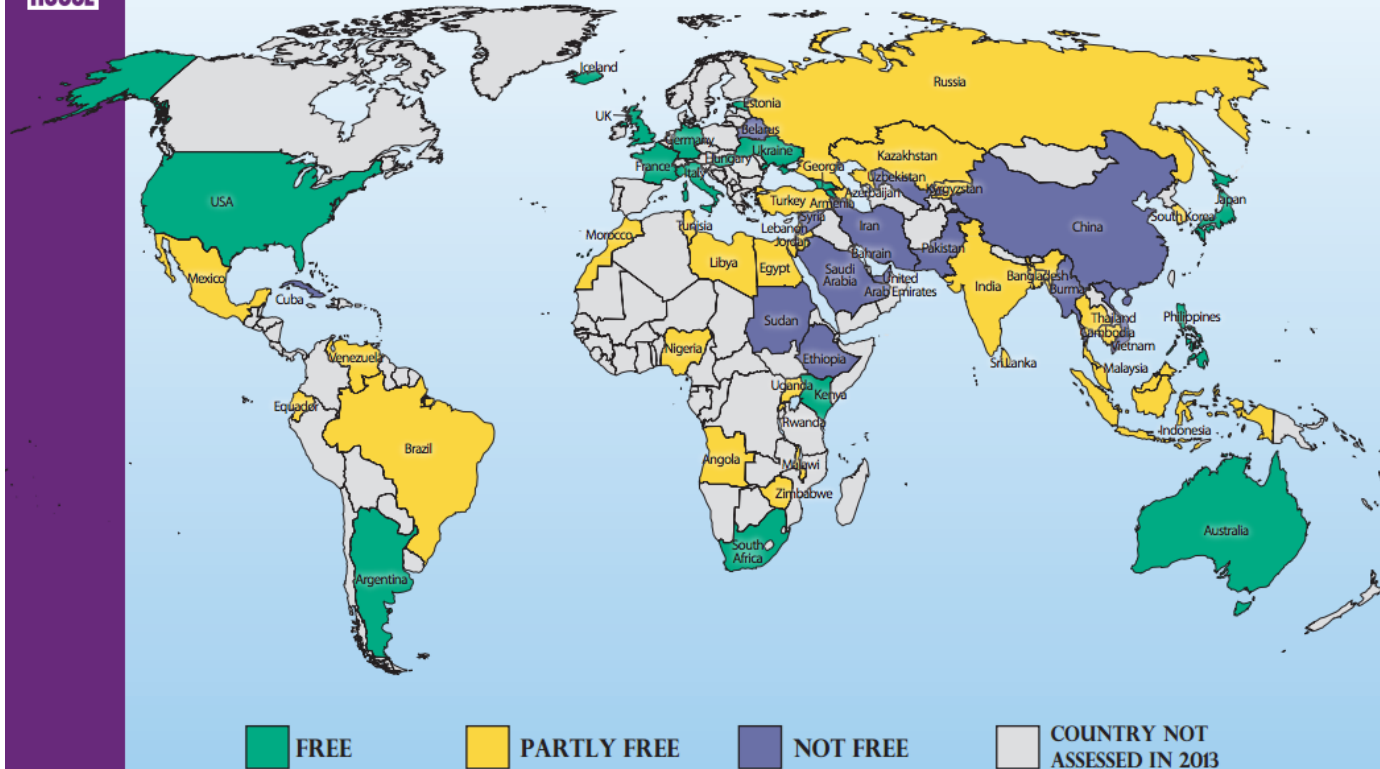
« واحد مرکزی خبر

فرهنگی و مذهبی

« قرآن

FREEDOM ON THE NET 2013

A GLOBAL ASSESSMENT OF INTERNET AND DIGITAL MEDIA



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



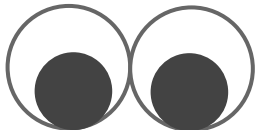
Widely Available Platforms

Web Standards

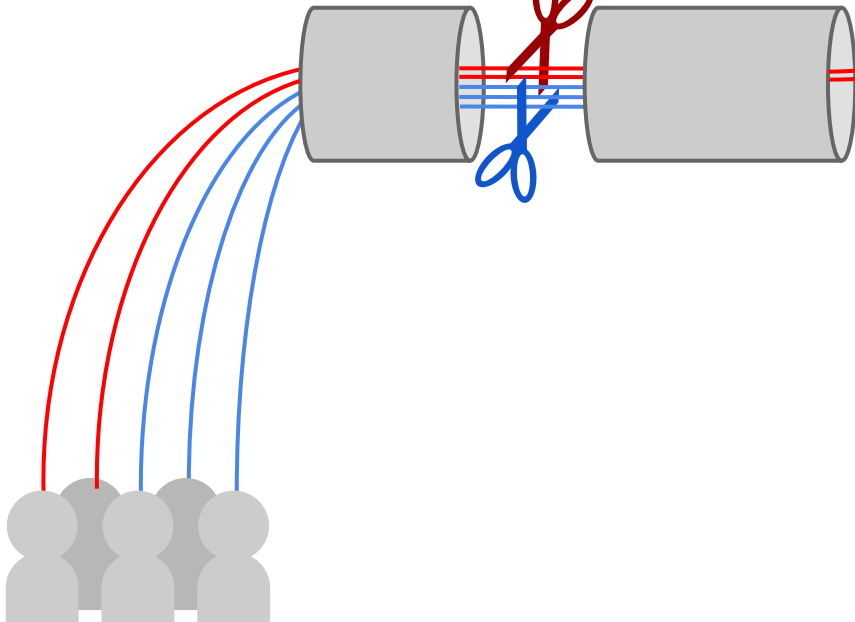


Centralized proxies

+ Filter
+ Surveil
+ Manipulate/Misdirect



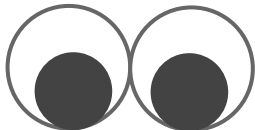
+ Failures



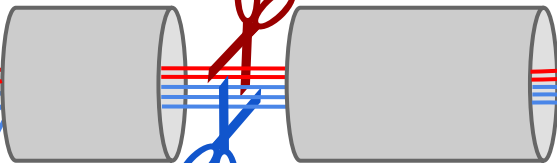
- Legend**
- Connection to proxy
 - Censors see connection to YouTube
 - Unfettered connection

Centralized proxies

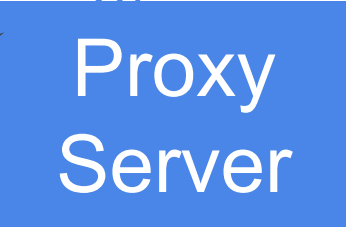
- + Filter
- + Surveil
- + Manipulate/Misdirect



- + Failures

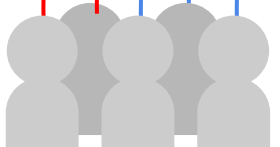


- Problems w/Proxies:**
- + Scale: easy to find & block everyone
 - + Trust: users need to trust proxy (e.g. password theft), and proxy needs to trust users (e.g. illegal activity)



Legend

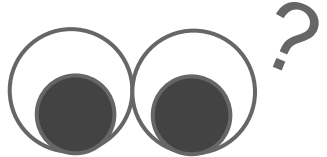
- Connection to proxy
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Users in unsafe environment

uProxy: an experiment in distributed proxying

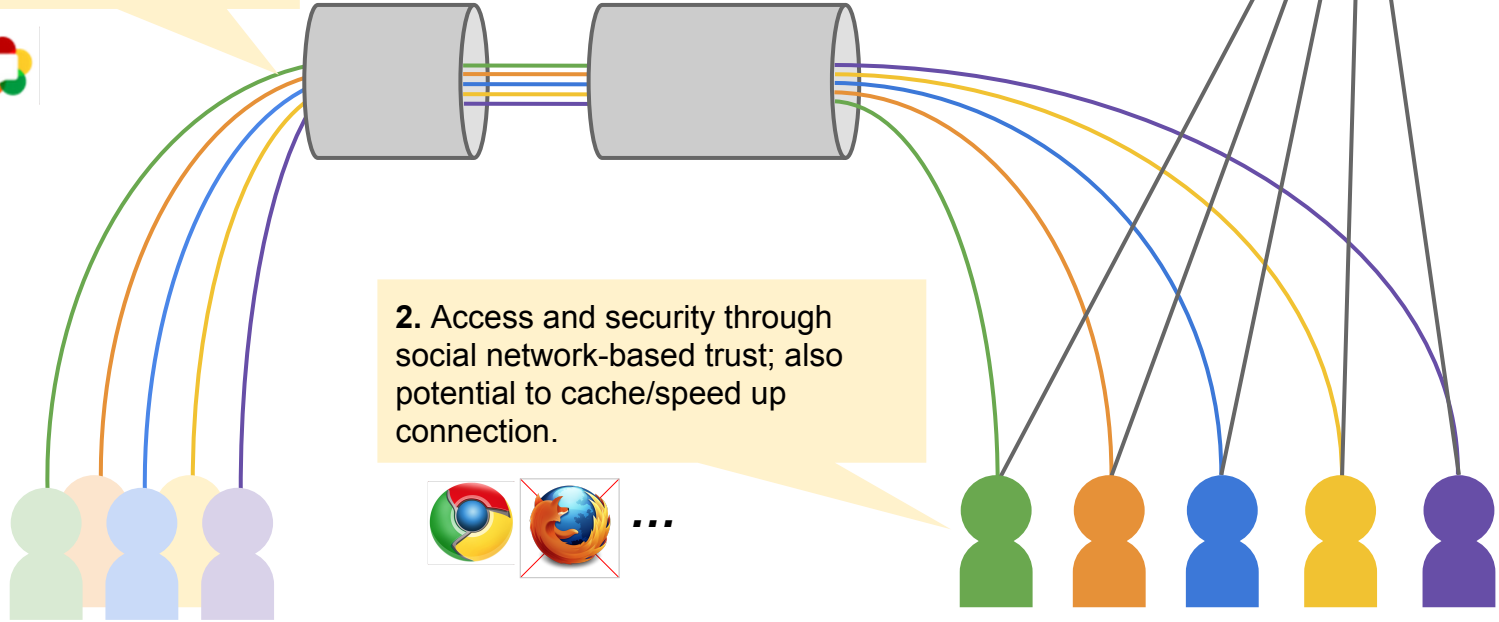
1. XMPP/Chat/Email/Social connects users; HTML5 WebRTC transports data; encryption and obfuscation, hides data from attackers.



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.

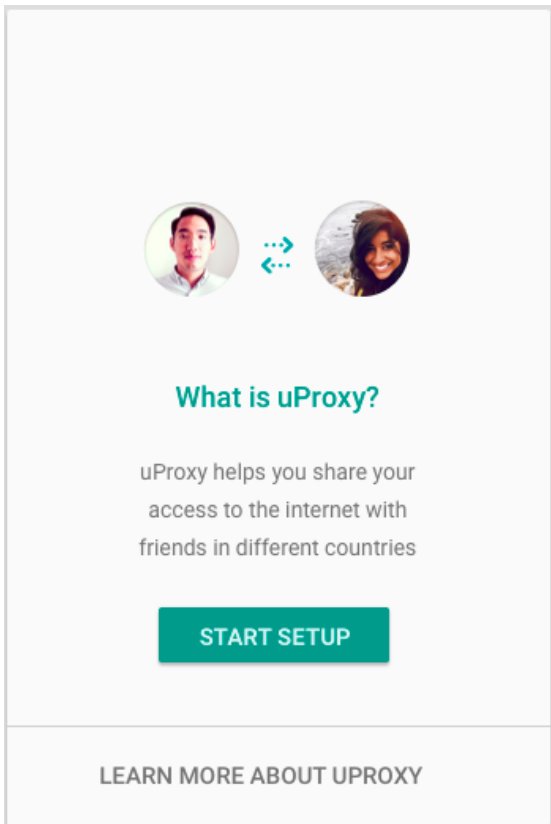


Users in unsafe environment

Users in safer environment

User Experience Design Mocks

Explanatory intro screens



Explanatory intro screen mockup. It features two circular profile pictures of people connected by a double-headed arrow. Below this is the heading "What is uProxy?" followed by a paragraph: "uProxy helps you share your access to the internet with friends in different countries". A prominent teal "START SETUP" button is centered below the text. At the bottom, a light gray bar contains the text "LEARN MORE ABOUT UPROXY".

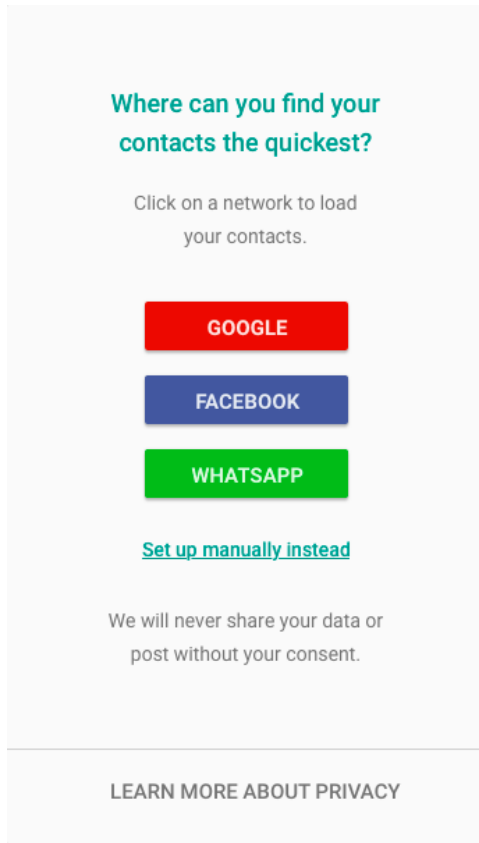
What is uProxy?

uProxy helps you share your access to the internet with friends in different countries

[START SETUP](#)

[LEARN MORE ABOUT UPROXY](#)

Connect to social networks



Connect to social networks screen mockup. The heading is "Where can you find your contacts the quickest?". Below it is the instruction: "Click on a network to load your contacts." Three large, colored buttons are stacked vertically: "GOOGLE" (red), "FACEBOOK" (blue), and "WHATSAPP" (green). Below these is a link: "[Set up manually instead](#)". A privacy notice follows: "We will never share your data or post without your consent." At the bottom, a light gray bar contains the text "LEARN MORE ABOUT PRIVACY".

Where can you find your contacts the quickest?

Click on a network to load your contacts.

[GOOGLE](#)

[FACEBOOK](#)

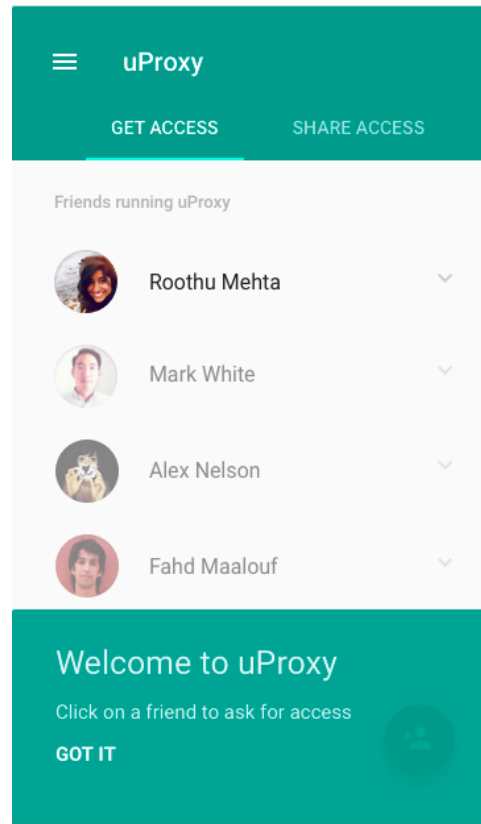
[WHATSAPP](#)

[Set up manually instead](#)

We will never share your data or post without your consent.

[LEARN MORE ABOUT PRIVACY](#)

Home Screen



Home screen mockup. The top bar is teal with a hamburger menu icon, the text "uProxy", and two buttons: "GET ACCESS" and "SHARE ACCESS". Below this is the section "Friends running uProxy" with a list of four items, each with a profile picture, a name, and a dropdown arrow: "Roothu Mehta", "Mark White", "Alex Nelson", and "Fahd Maalouf". The bottom section is a teal banner with the text "Welcome to uProxy", "Click on a friend to ask for access", and a "GOT IT" button.

uProxy

[GET ACCESS](#) [SHARE ACCESS](#)

Friends running uProxy

- Roothu Mehta
- Mark White
- Alex Nelson
- Fahd Maalouf

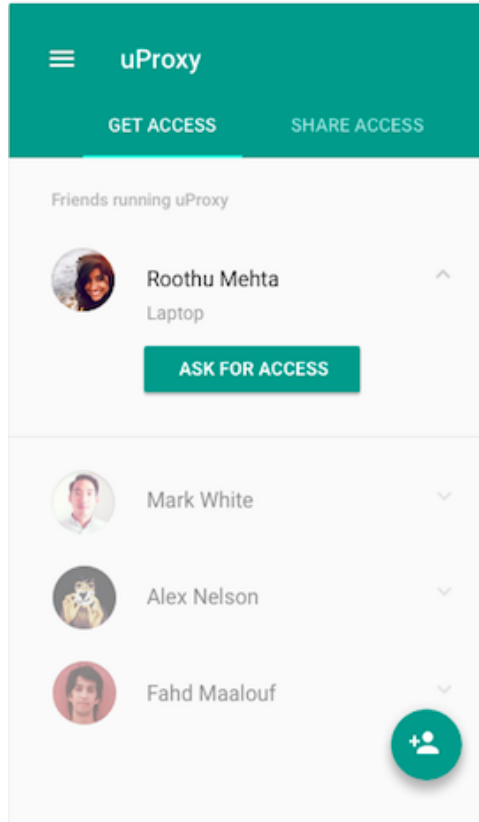
Welcome to uProxy

Click on a friend to ask for access

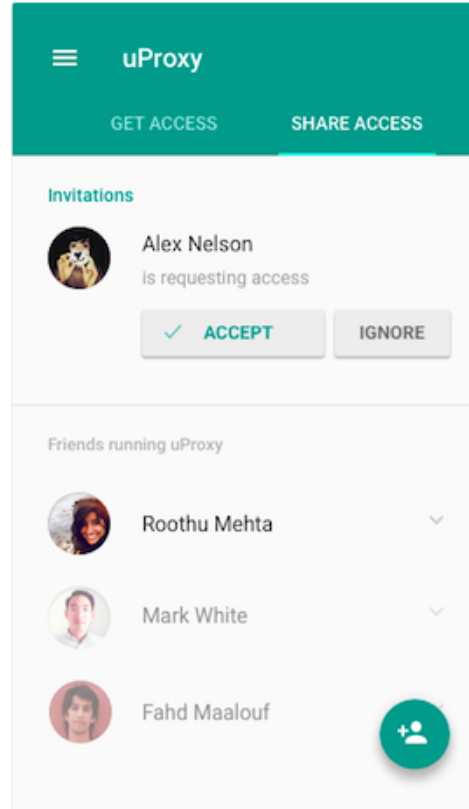
[GOT IT](#)

User Experience

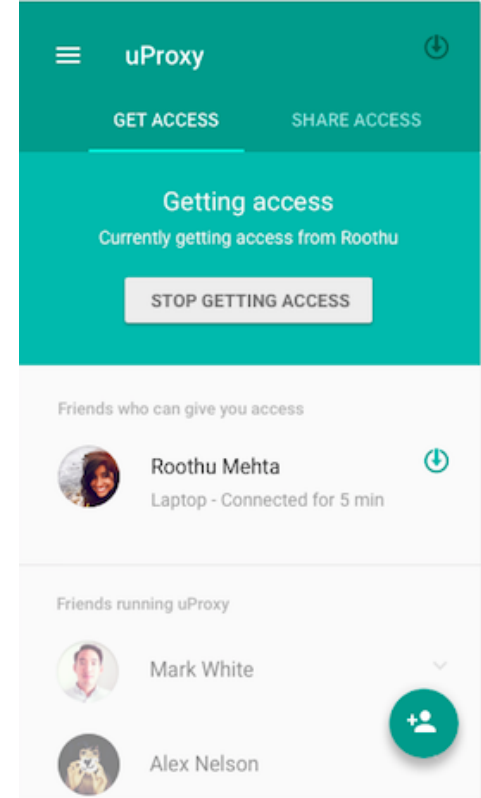
Request Access (Alex)



Accept Request (Roothu)

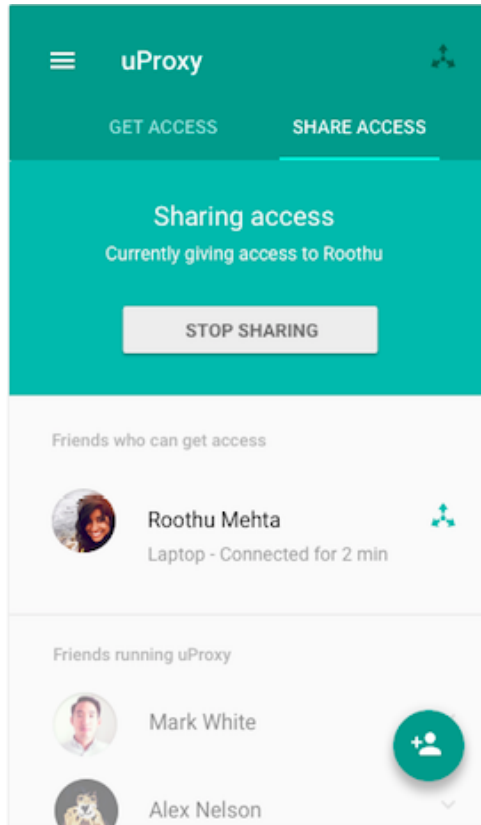


Connection Active (Alex)

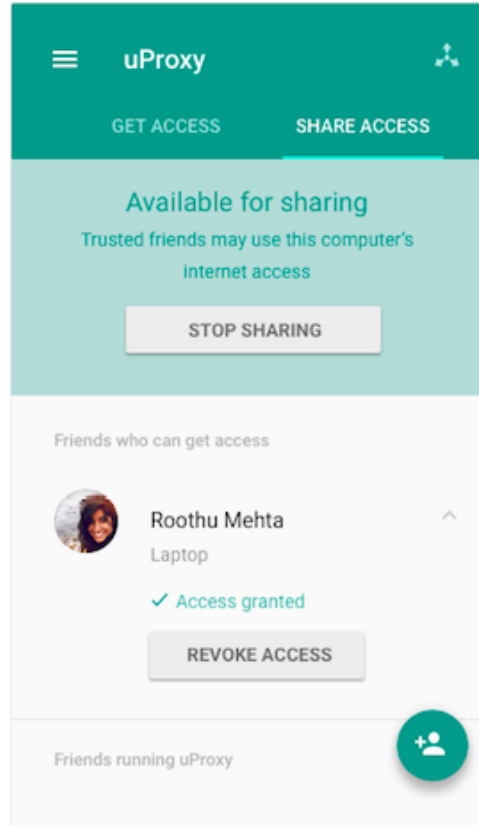


User Experience

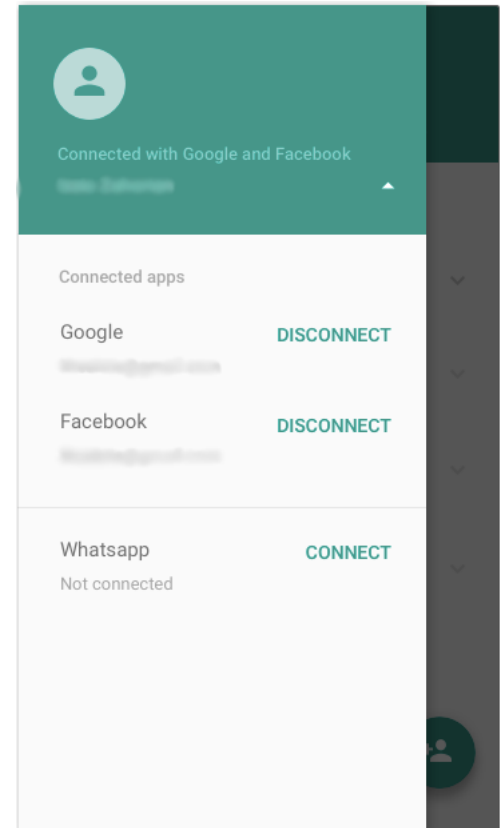
Active Connection



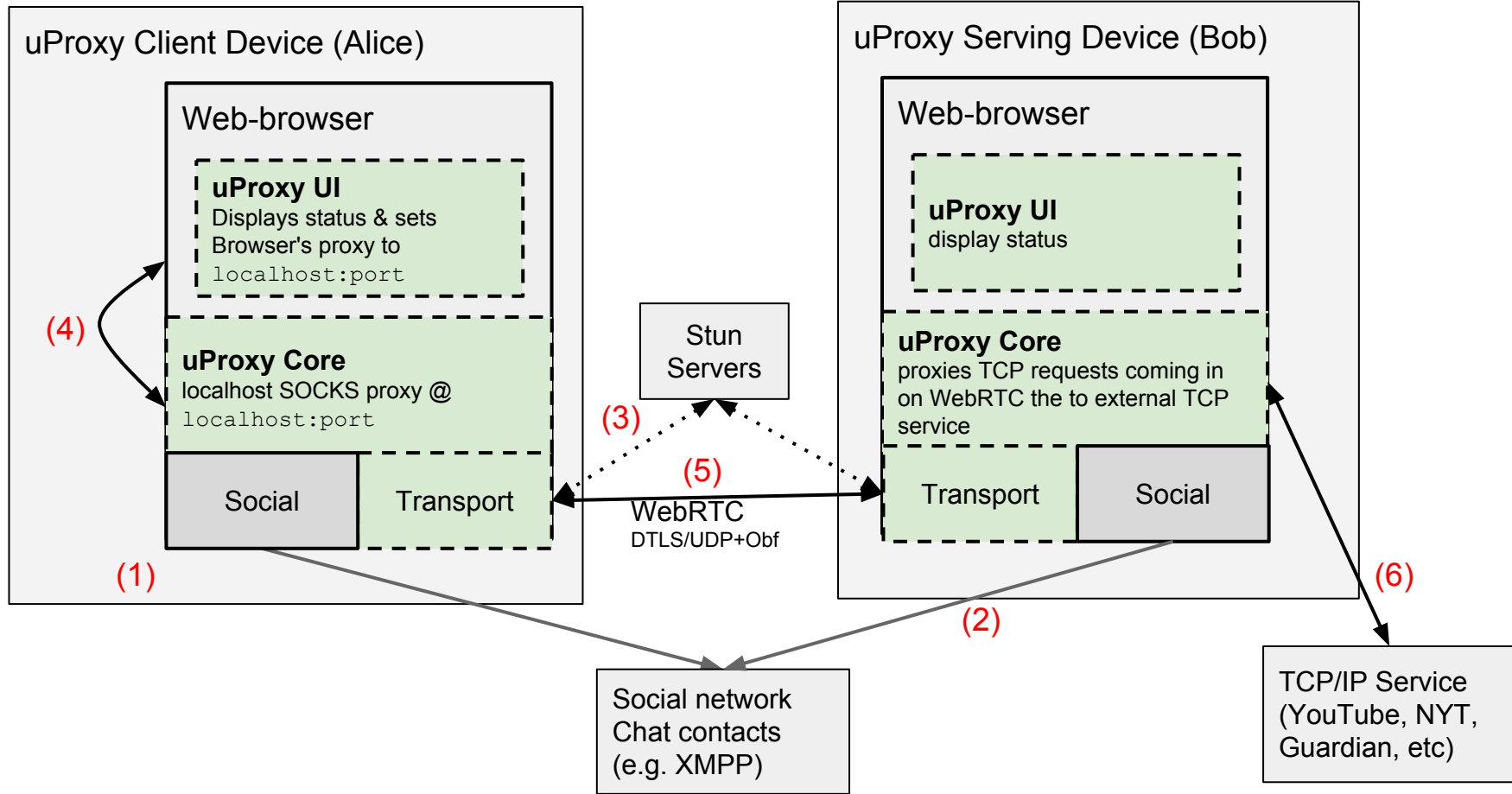
Stop access



Settings



Architecture



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