



Lorin B Olsen
Chief Technologist
Lobostrategies, Inc.

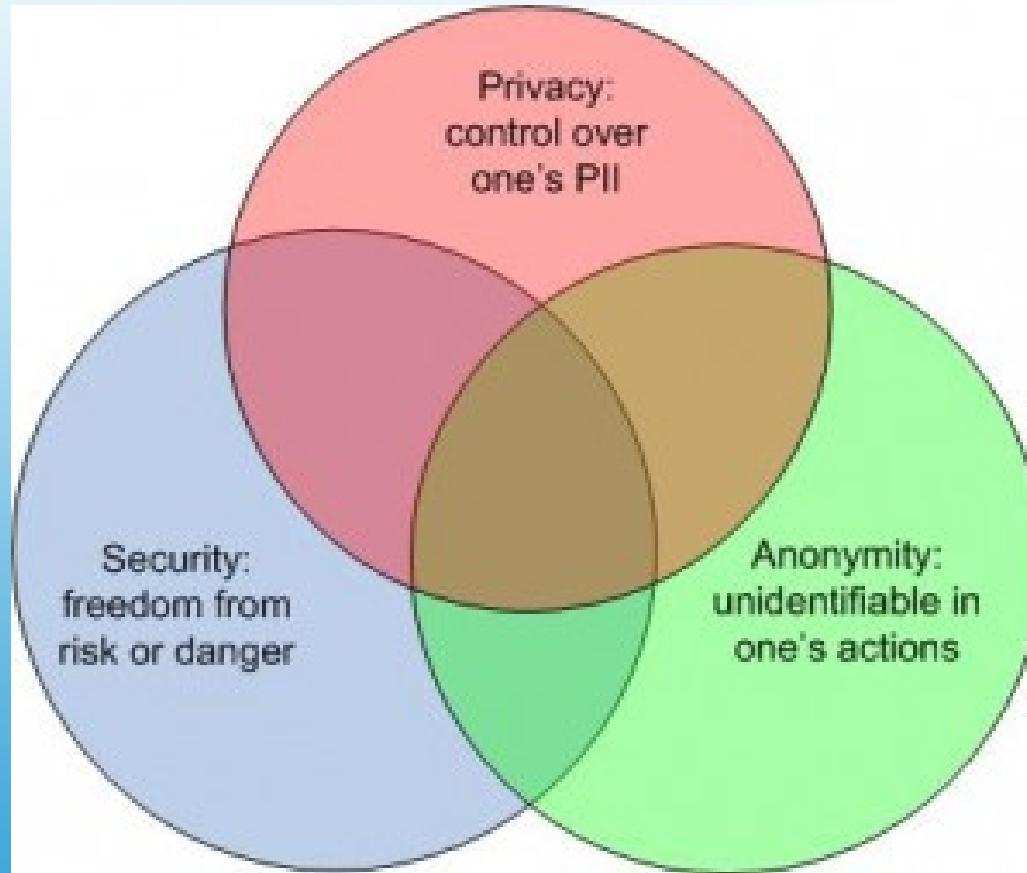
Be An Ogre!



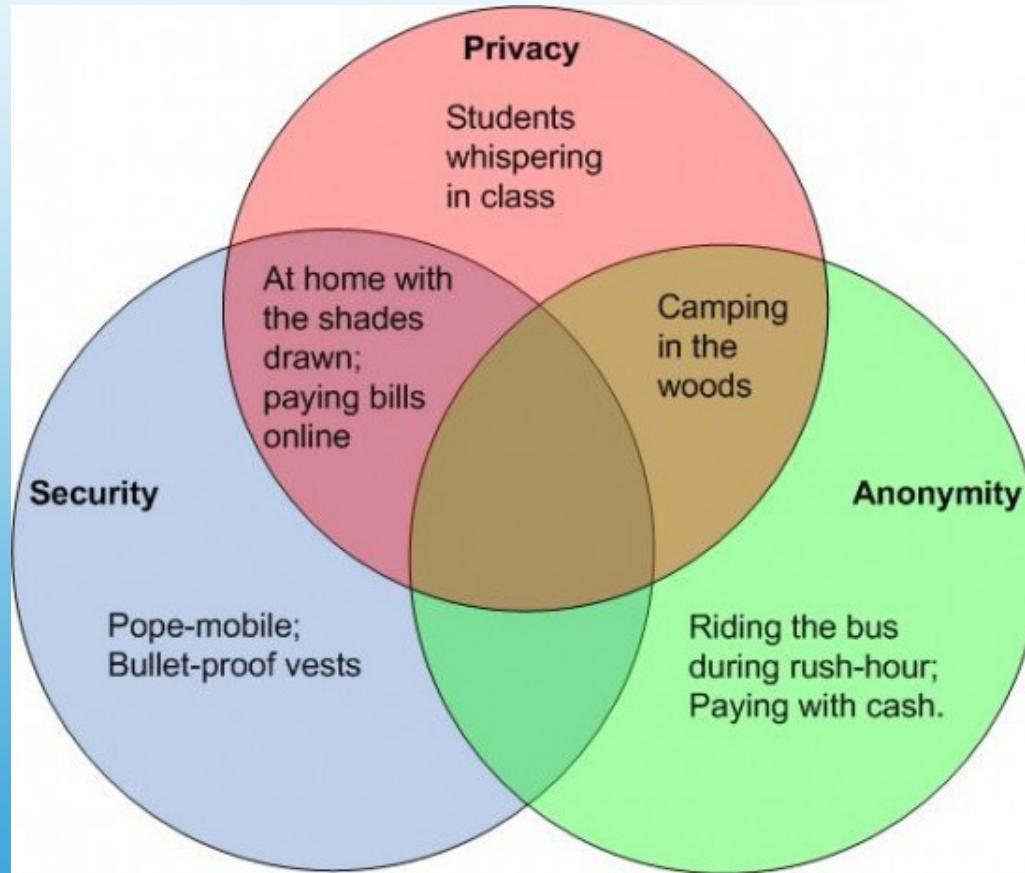
Don't Worry, Be Happy.

- Overview
- Security Challenges
- Privacy Challenges
- Mobile Demonstration

Overview



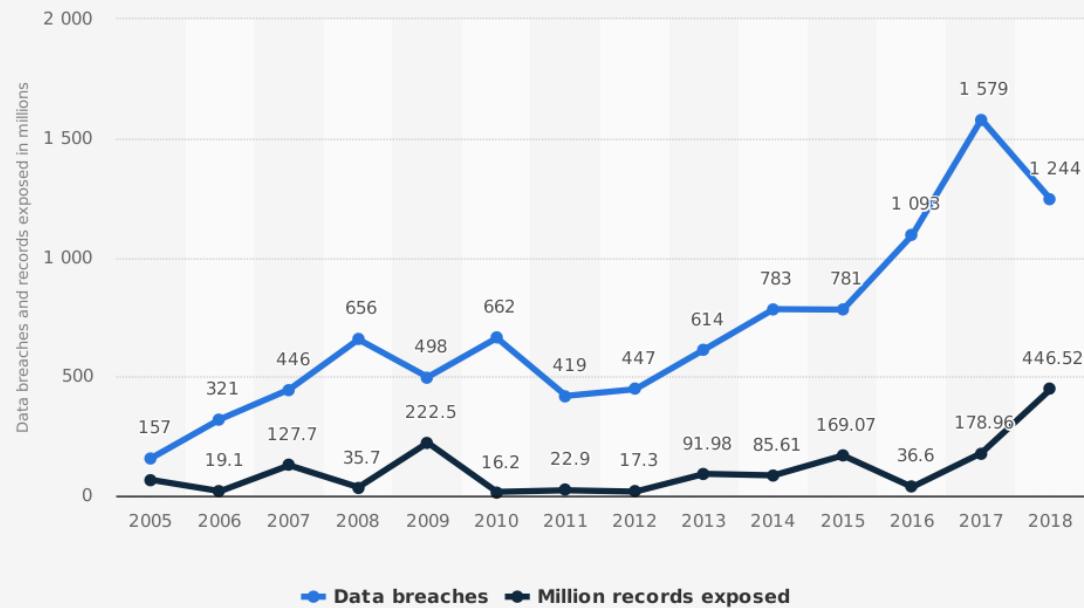
Privacy, Security, Anonymity



Privacy, Security, Anonymity

Security Challenges

Annual number of data breaches and exposed records in the United States from 2005 to 2018 (in millions)



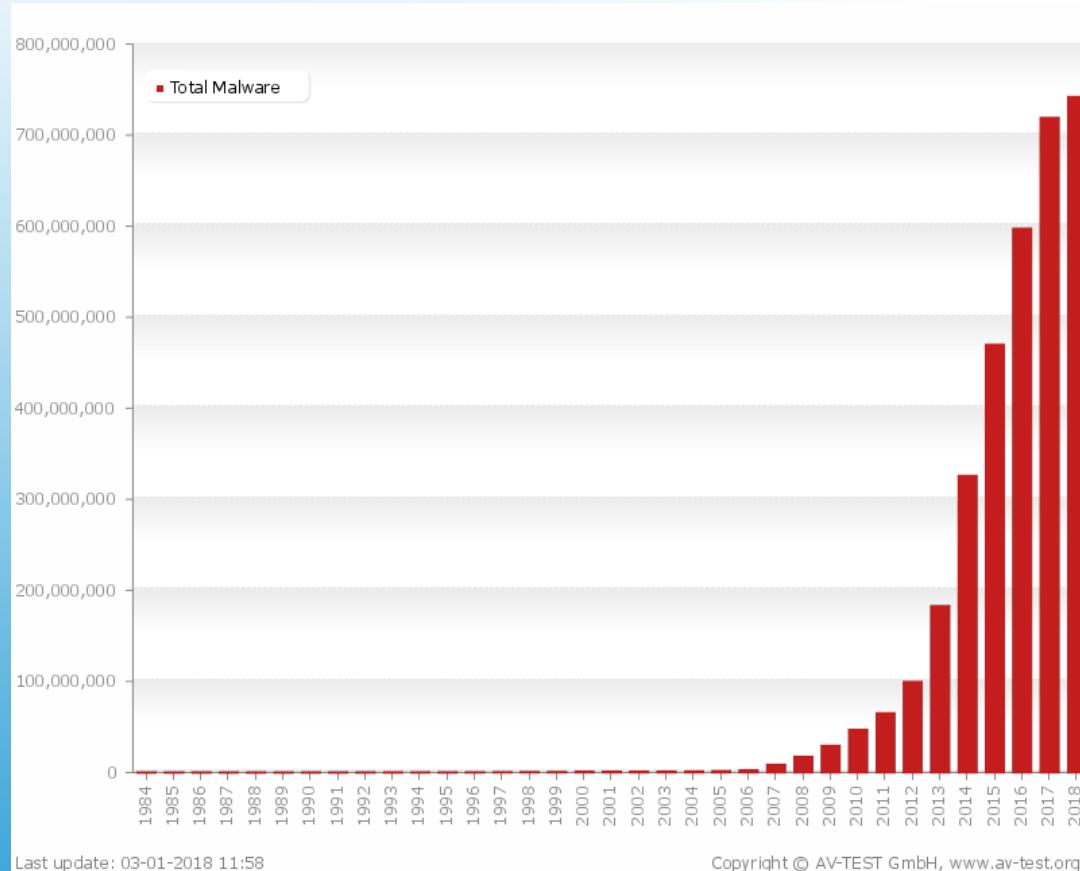
Source

Identity Theft Resource Center
© Statista 2019

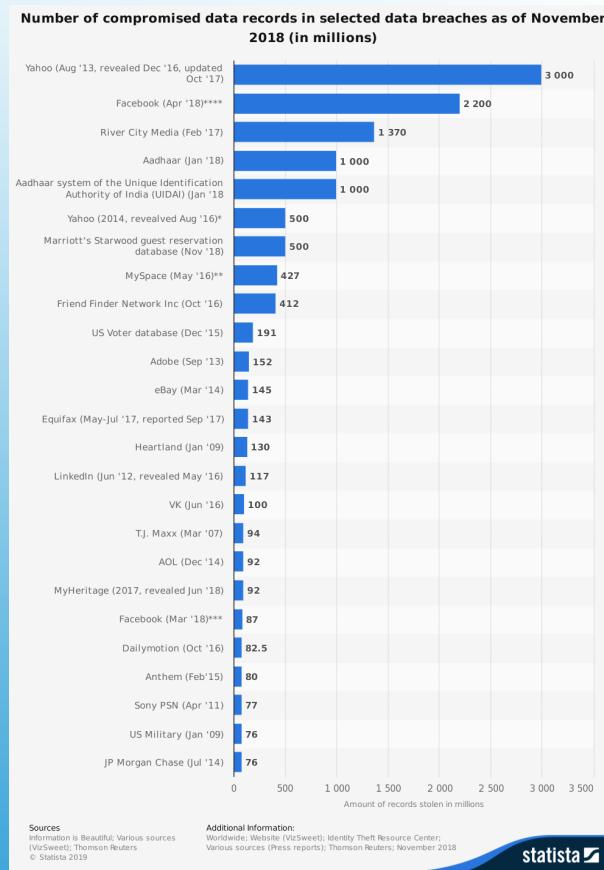
Additional Information:

United States; Identity Theft Resource Center; 2005 to 2018

US Breaches Are Increasing



Security Threats Are Real

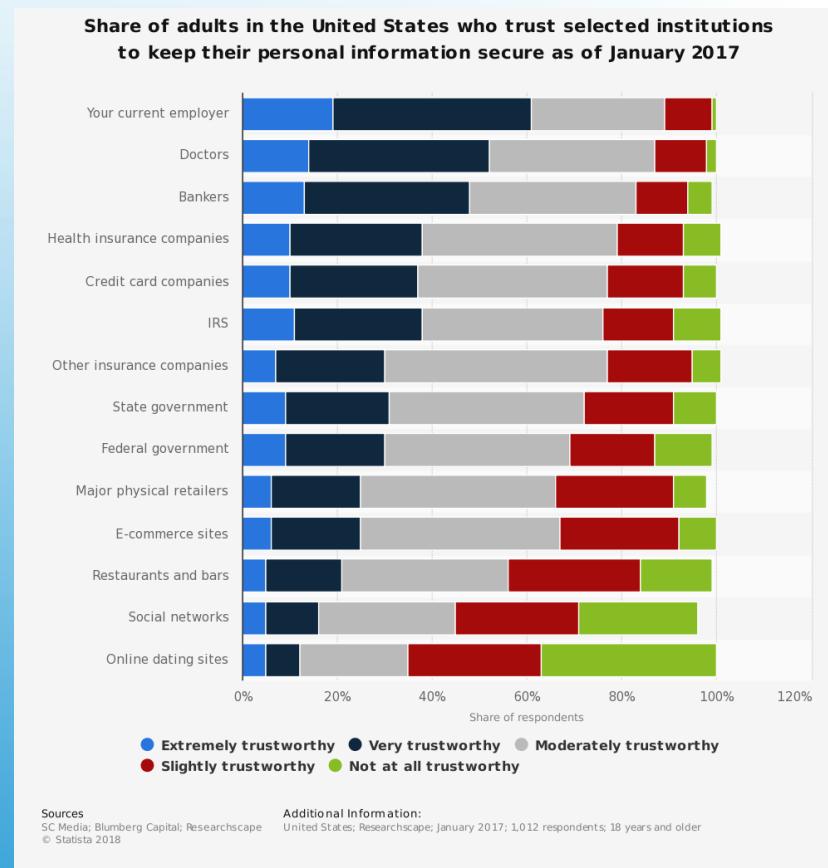


Biggest US Data Breaches



<https://www.techrepublic.com/article/enterprise-iot-adoption-to-hit-critical-mass-by-2019-but-security-remains-a-top-concern/>

Email Breach: 773M Accounts + 21M Passwords

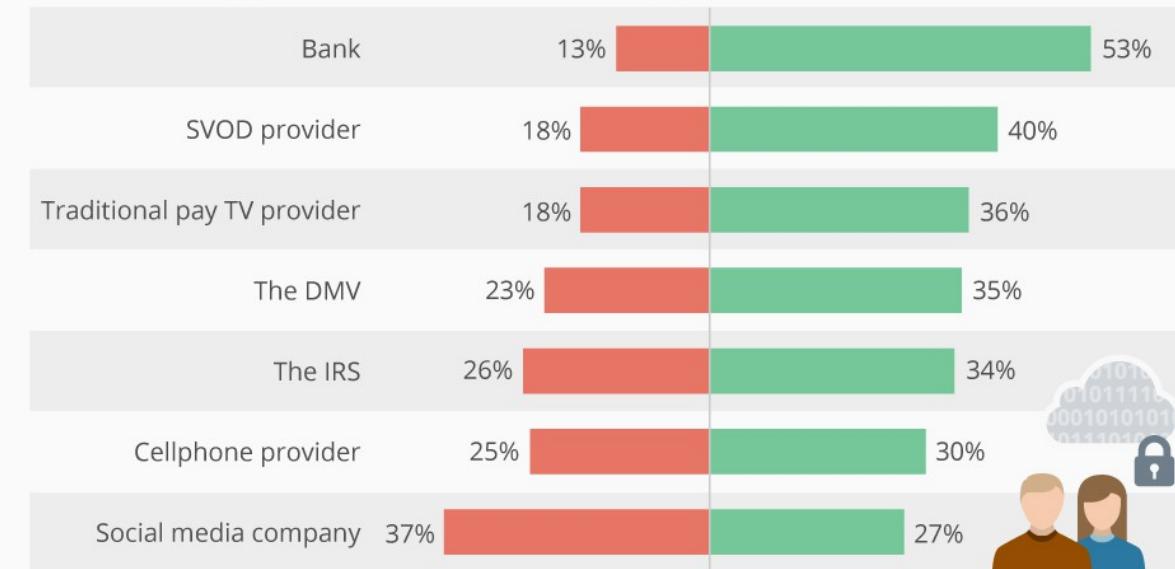


Institutional Trust Corrosion

Facebook Scandal Erodes Trust in Social Media Companies

% of U.S. consumers confident that their data is kept secure by the following institutions

■ Not very/not at all confident ■ Very/extremely confident



Based on a survey of 1,933 U.S. consumers aged 16–74 conducted in June 2018

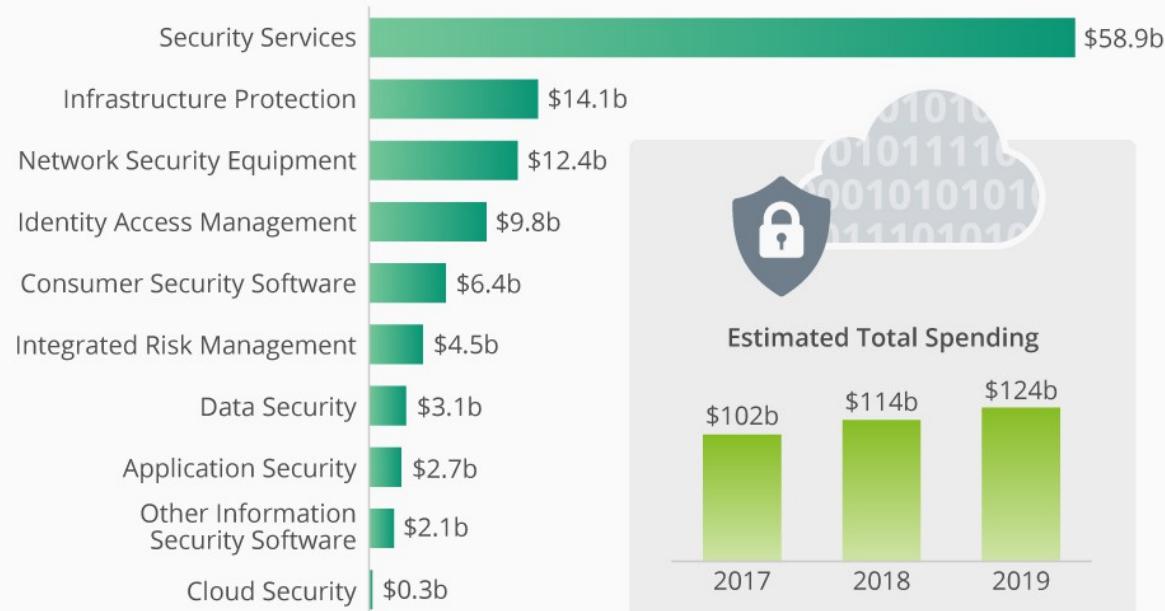
Source: Hub Entertainment Research

statista

Social Media Trust Is Plummeting

IT Security Spending to Reach a Record \$114 Billion in 2018

Estimated worldwide spending on information security products and services by segment



@StatistaCharts

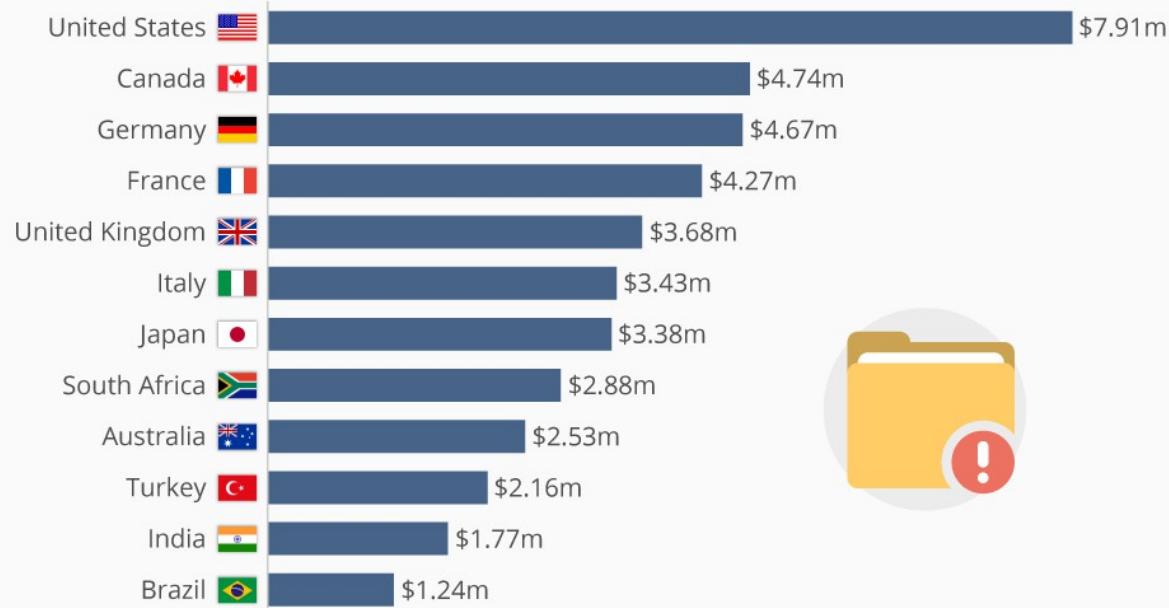
Source: Gartner

statista

IT Security Spending

The Price Tag Attached to Data Breaches

Average total cost of a data breach by country in 2018

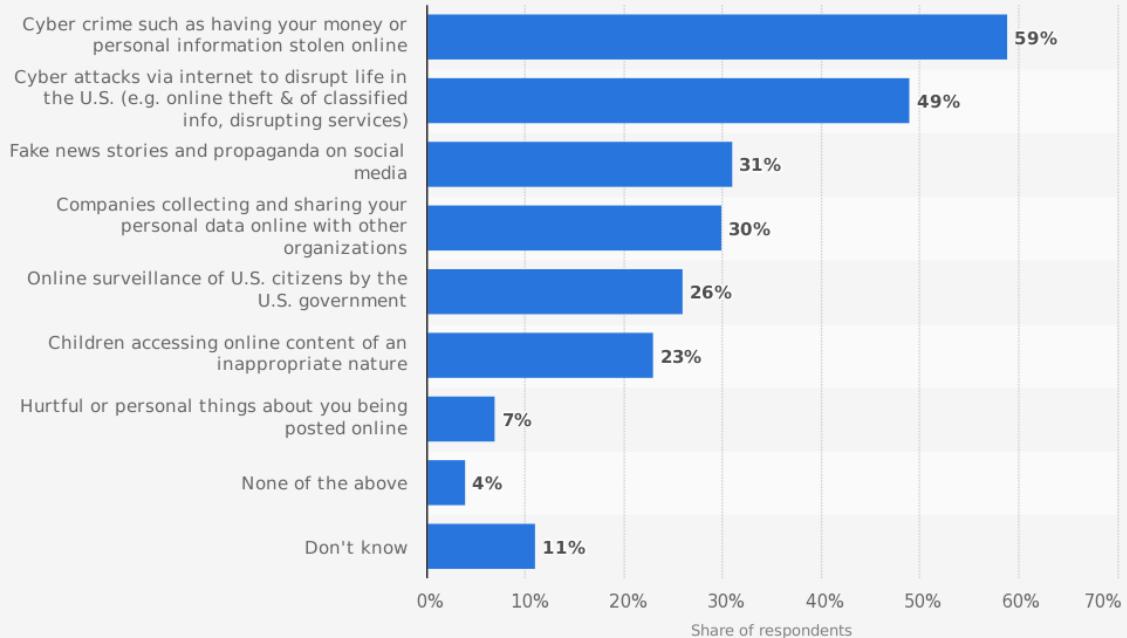


@StatistaCharts Source: IBM

statista

National Monetary Cost

Most concerning issues about online usage according to internet users in the United States as of May 2017



Sources

YouGov; Handelsblatt
© Statista 2018

Additional Information:

United States; YouGov; Handelsblatt; May 2017; 1,151 respondents;
18 years and older

statista

Top Concerns

**WHAT
SHOULD
I DO**



What Should I Do? Security Breaches



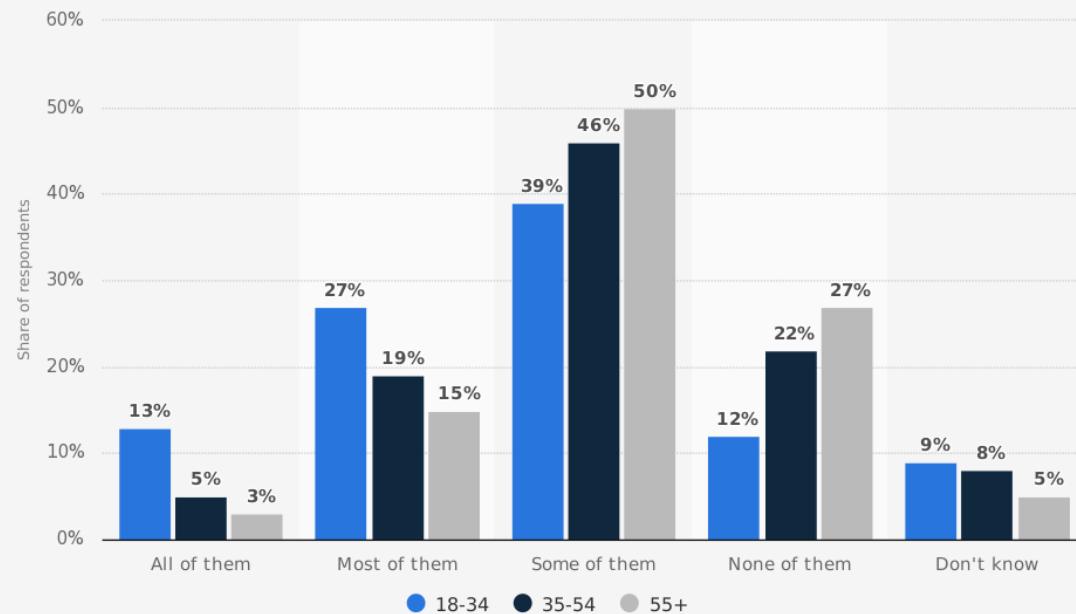
Do Passwords Well

CREATE STRONG
P@\$\$WORD



Use Strong Passwords

Share of internet users in the United States who use the same password for multiple online accounts as of October 2018, by age group



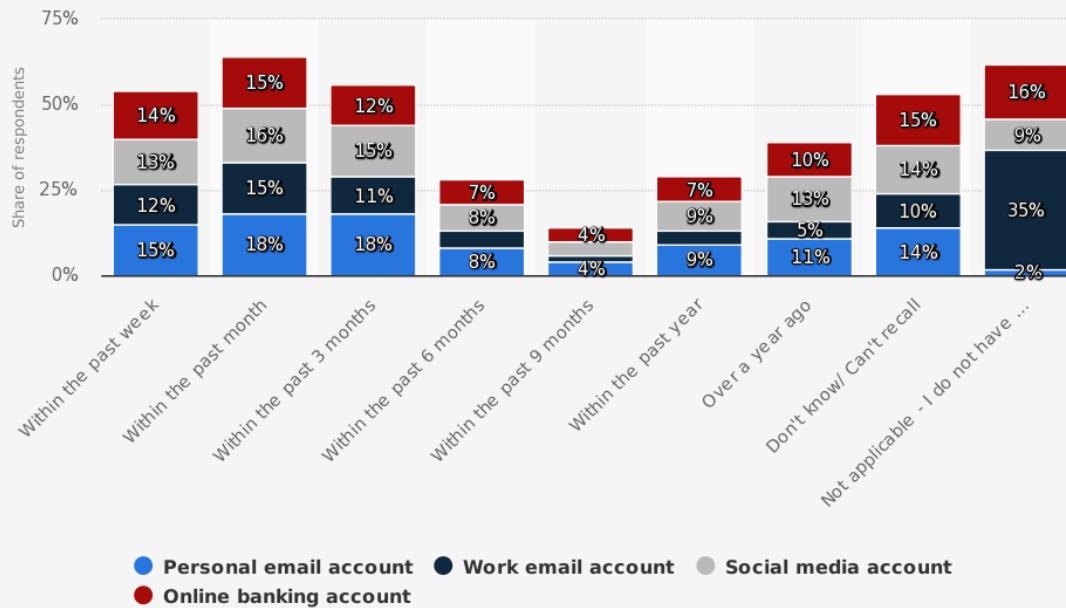
Source
YouGov
© Statista 2019

Additional Information:
United States; October 2018; 1,209 respondents; 18 years and older; internet users

statista

Don't Re-use Passwords

Frequency of changing passwords for online accounts in the United States as of August 2017, by account type



Source
Statista Survey
© Statista 2018

Additional Information:
August 10 to 14, 2017; 1,020 respondents; 18 to 69 years

Change Passwords Frequency

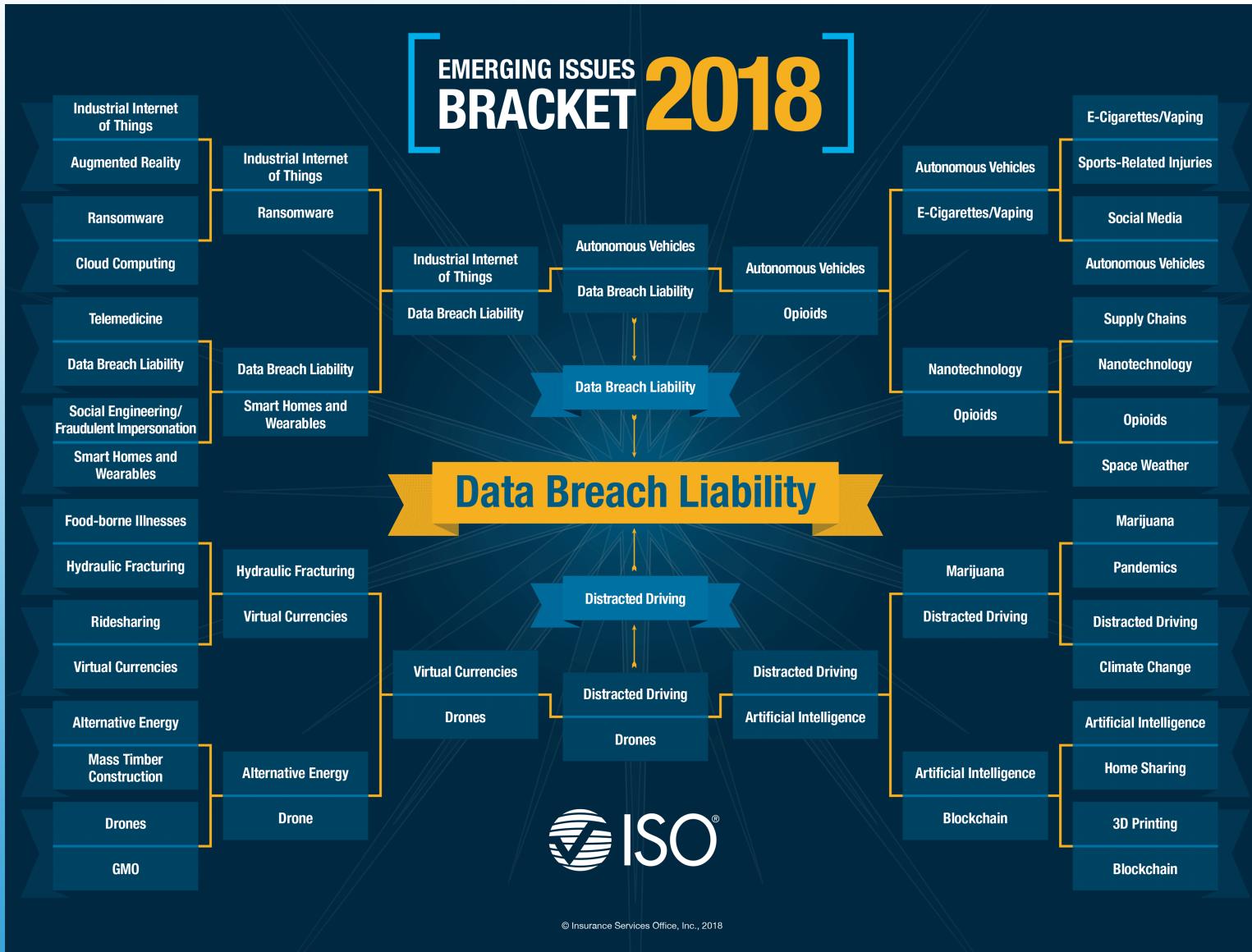


Use A Password Manager



Use Multi-Factor Authentication

EMERGING ISSUES BRACKET 2018



Privacy Is Paramount Concern

Privacy Challenges



Risks From The Government



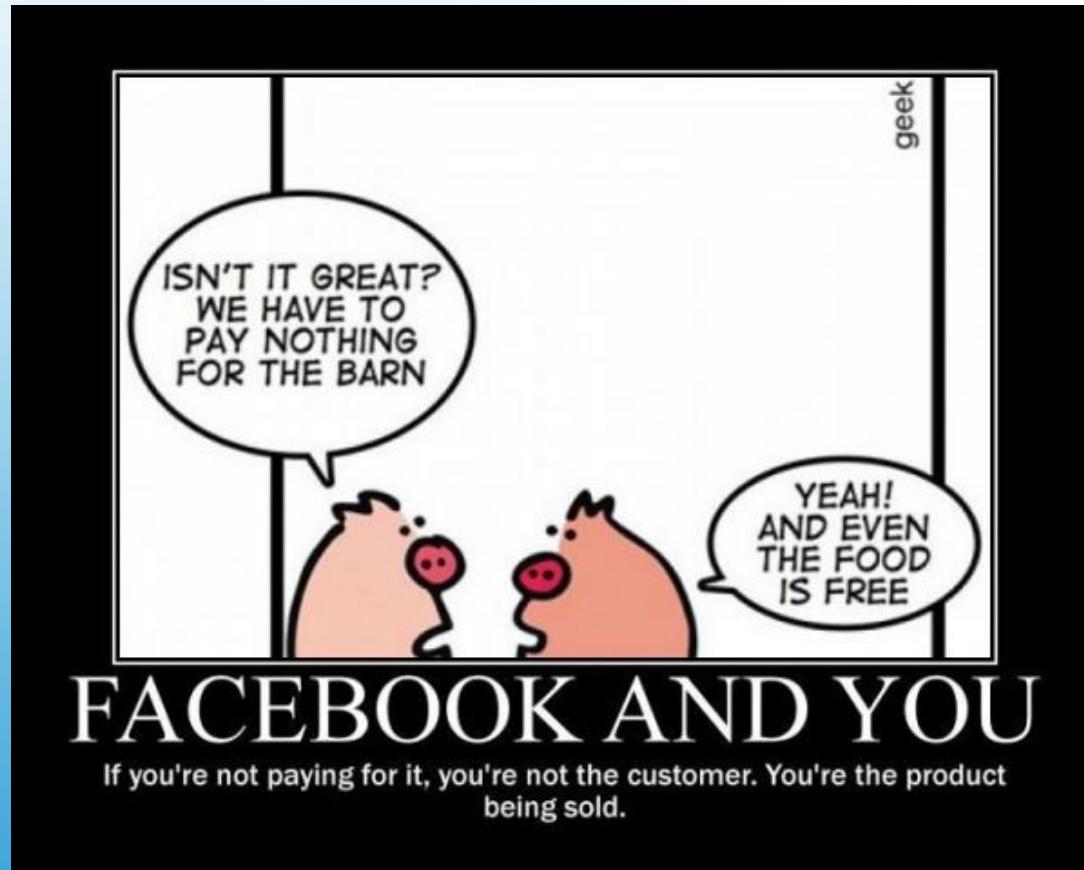
The Biggest Risk



The Things We Willingly
Share



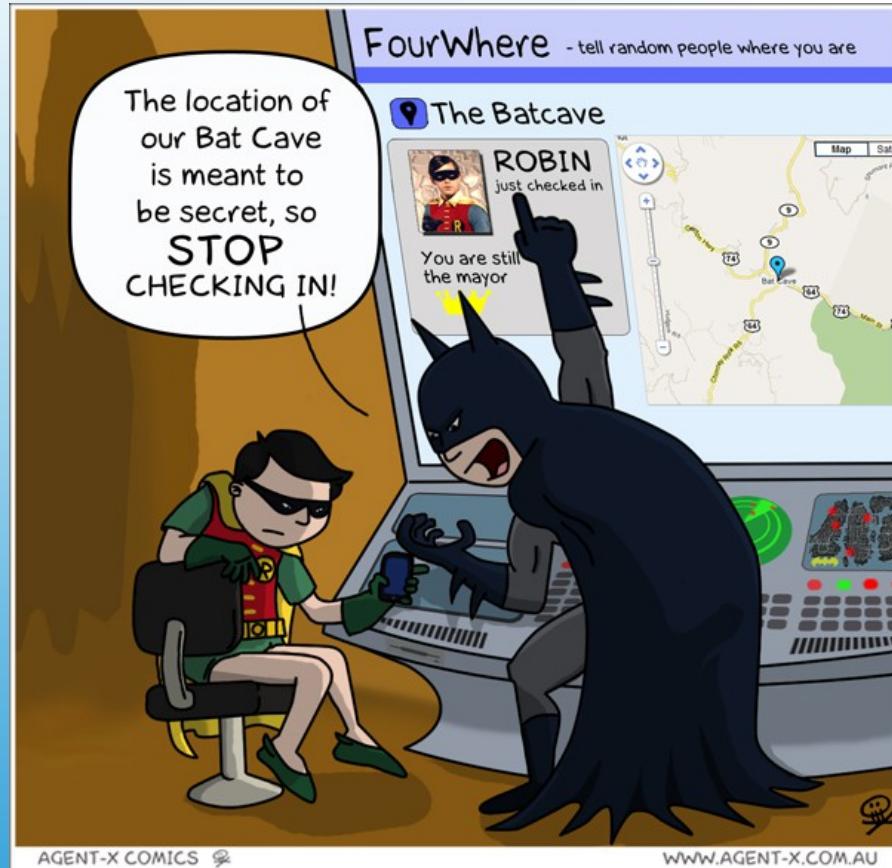
When “Free” Costs



Risks From Businesses



Data Risk: Identity



Data Risk: Location

HOW DO THE SAME CREEPY
RETARGETING ADS ALWAYS SEEM
TO FIND ME WHEREVER I AM?



© marketoonist.com

Data Risk: Location



Sell Our Birthright For Beans

Is Internet Privacy a Fantasy?



Buzzle.com

Is There Hope?

**WHAT
SHOULD
I DO**



What Should I Do? Invasion of Privacy



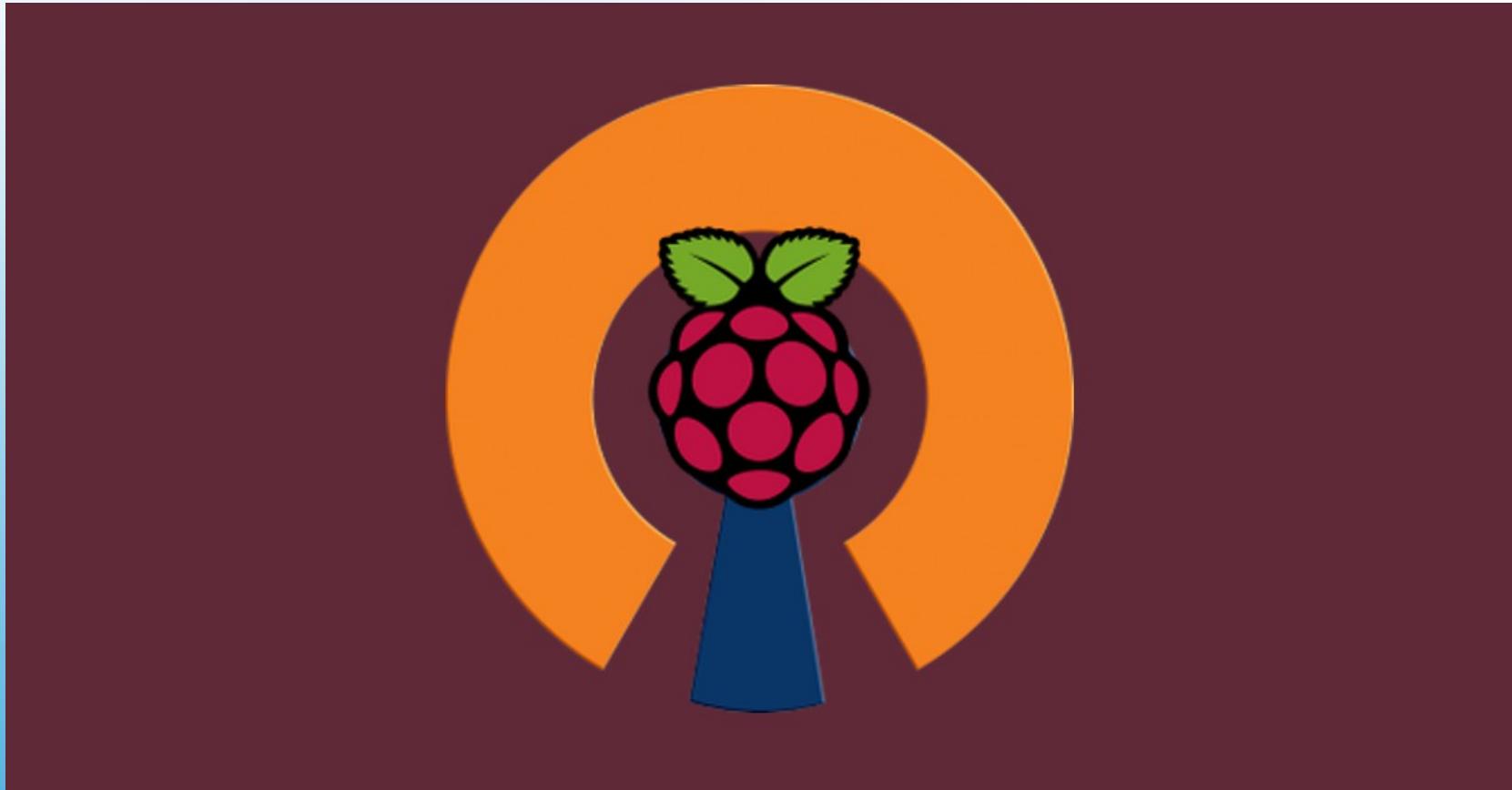
Strengthen Your Defenses



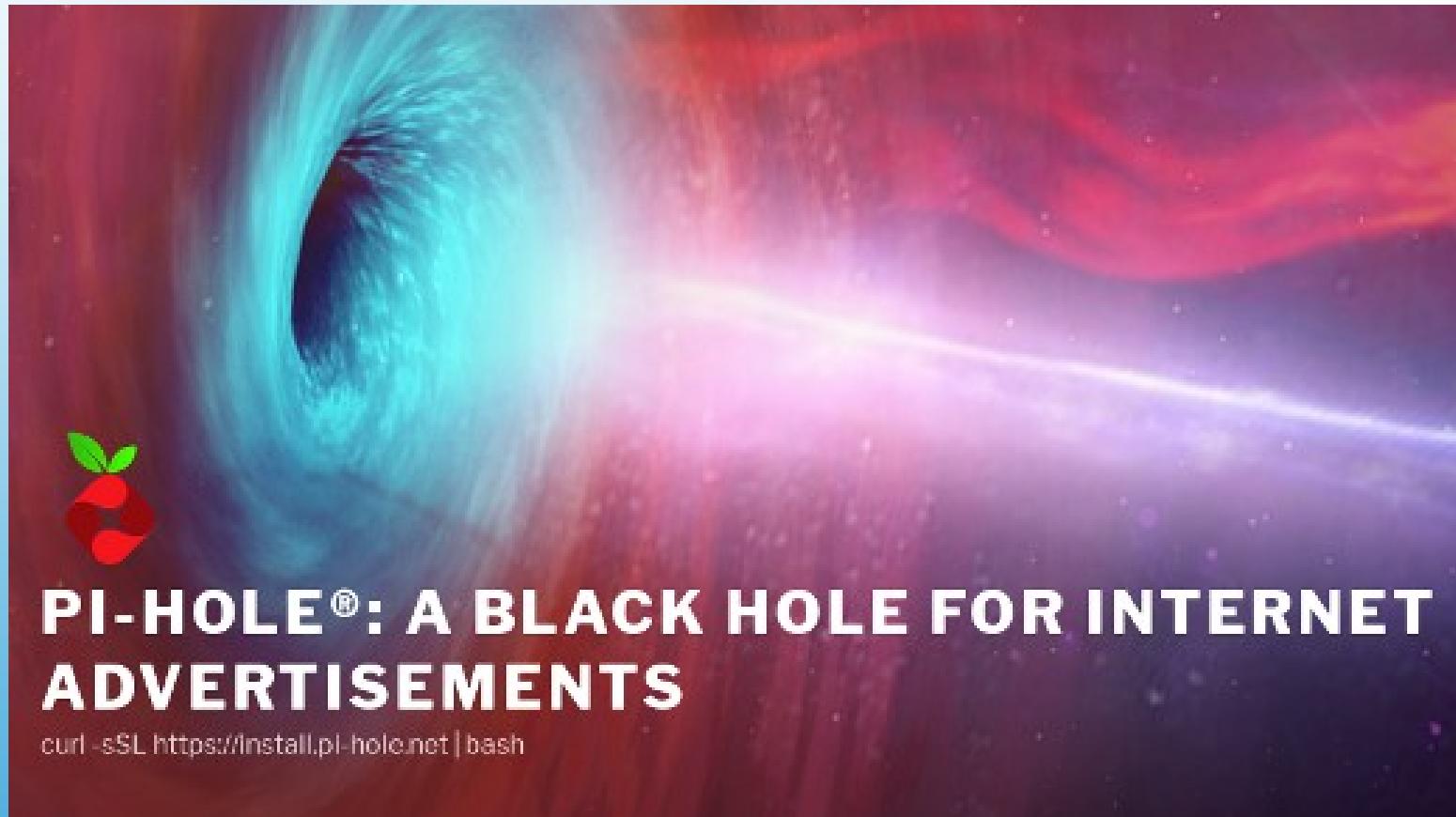
Network Security



Residential Router



Residential VPN



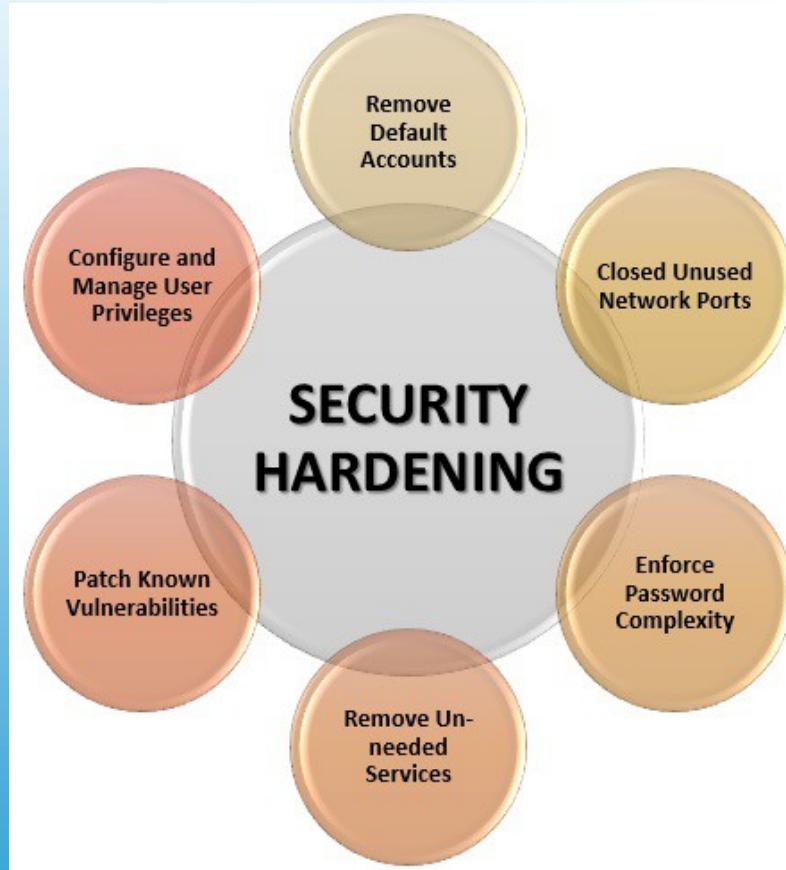
Network Privacy



Use A Secure Operating System



'Most Secure' Operating System



Harden Your Operating System



Use A Secure Web Browser

THE MOST SECURE



WEB BROWSER

'Most Secure' Web Browser



Harden Your Web Browser



Stop Tracking with [Privacy Badger](#)

Privacy Badger is a browser add-on that stops advertisers and other third-party trackers from secretly tracking where you go and what pages you look at on the web. Privacy Badger learns about trackers as you browse by inspecting external resources websites request. Please be aware that Google Analytics is considered first-party by Privacy Badger, which means that Google Analytics will not be blocked if you do not use another blocker, such as uBlock Origin.



Block Ads and Trackers with [uBlock Origin](#)

An efficient [wide-spectrum-blocker](#) that's easy on memory, and yet can load and enforce thousands more filters than other popular blockers out there. It has no monetization strategy and is completely [open source](#). We recommend Firefox but uBlock Origin also works in other browsers such as Safari, Opera, and Chromium. Unlike AdBlock Plus, uBlock does not allow so-called "acceptable ads".



Automatically Delete Cookies with [Cookie AutoDelete](#)

Automatically removes cookies when they are no longer used by open browser tabs. With the cookies, lingering sessions, as well as information used to spy on you, will be expunged.



Encryption with [HTTPS Everywhere](#)

A Firefox, Chrome, and Opera extension that encrypts your communications with many major websites, making your browsing more secure. A collaboration between The Tor Project and the Electronic Frontier Foundation.



Block Content Delivery Networks with [Decentraleyes](#)

Emulates Content Delivery Networks locally by intercepting requests, finding the required resource and injecting it into the environment. This all happens instantaneously, automatically, and no prior configuration is required.

Source code: [GitLab \(self-hosted\)](#).

Privacy Add-ons



Stop cross-site requests with [uMatrix](#)

Many websites integrate features which let other websites track you, such as Facebook Like Buttons or Google Analytics. uMatrix gives you control over the requests that websites make to other websites. This gives you greater and more fine-grained control over the information that you leak online.



Be in total control with [NoScript Security Suite](#)

Highly customizable plugin to selectively allow JavaScript, Java, and Flash to run only on websites you trust. Not for casual users, it requires technical knowledge to configure.

Privacy Add-ons (cont.)

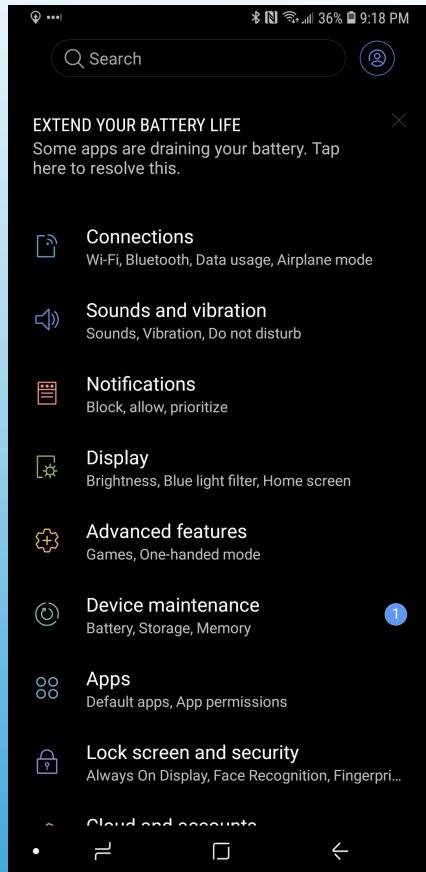


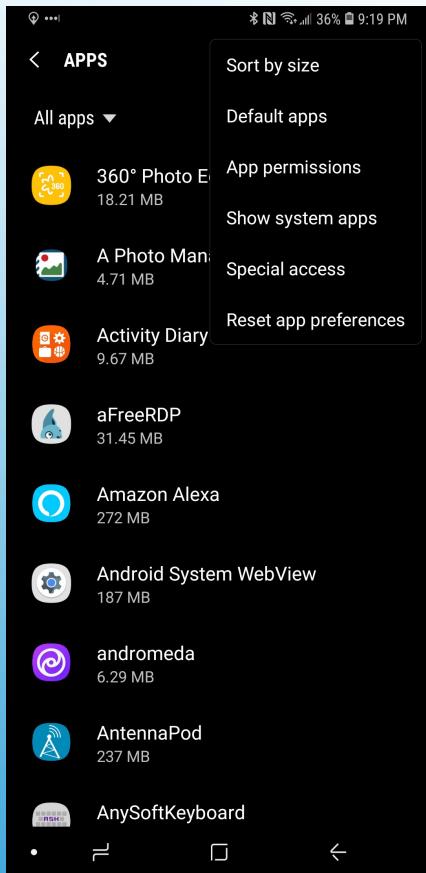
Mobile Security & Privacy

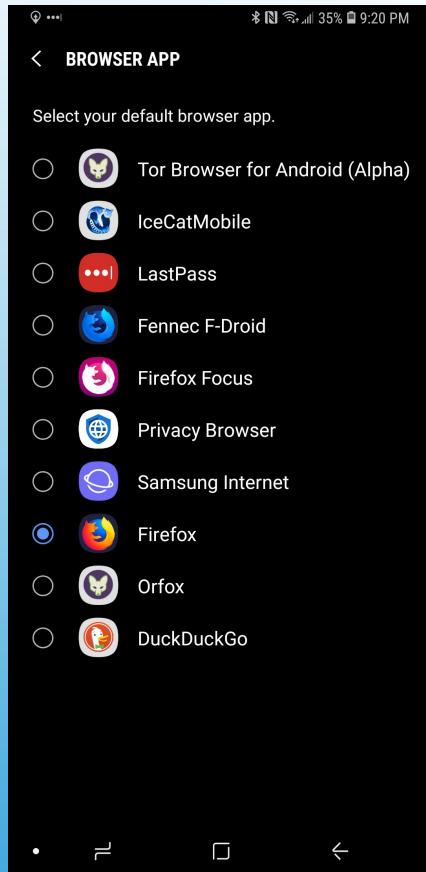
- My Mobile Platform
- My Access Point / Router
- Android Pie

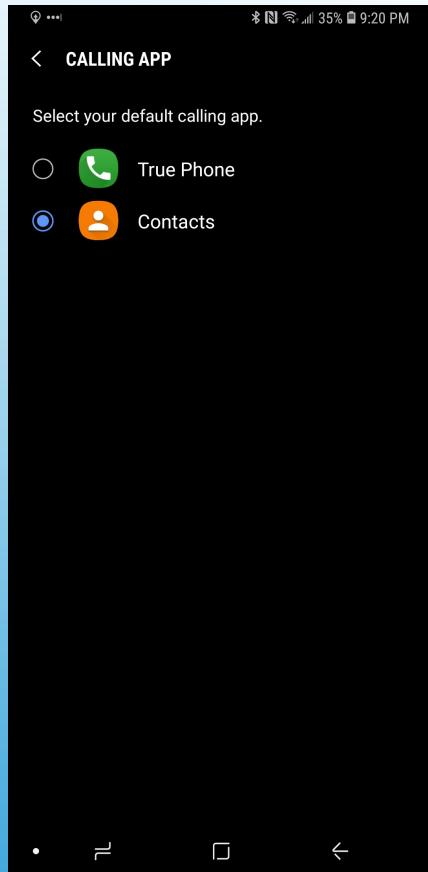
Demonstration

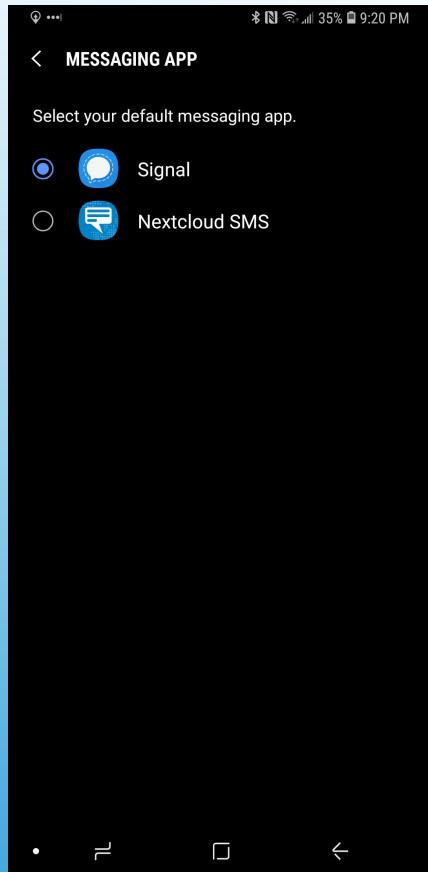


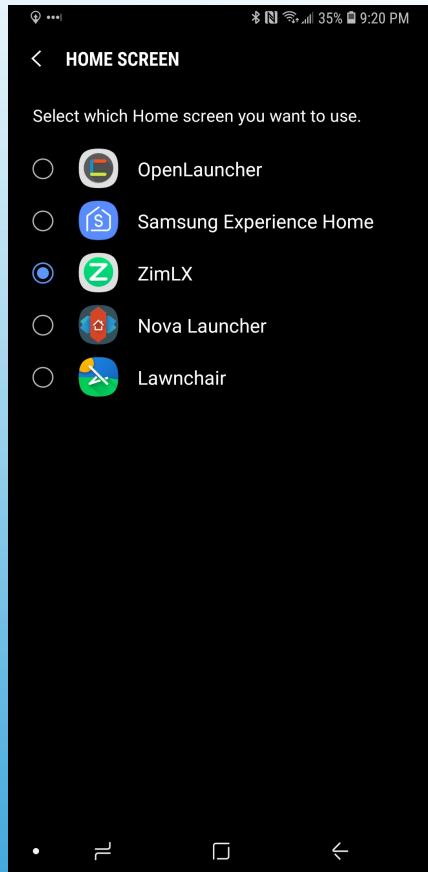








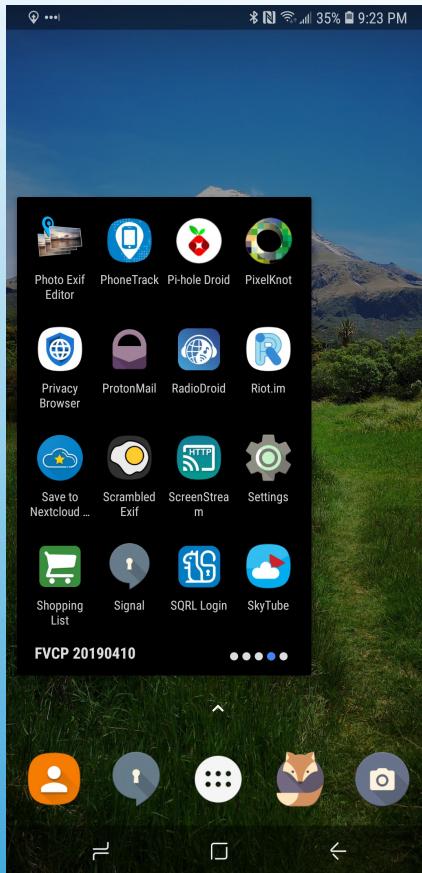




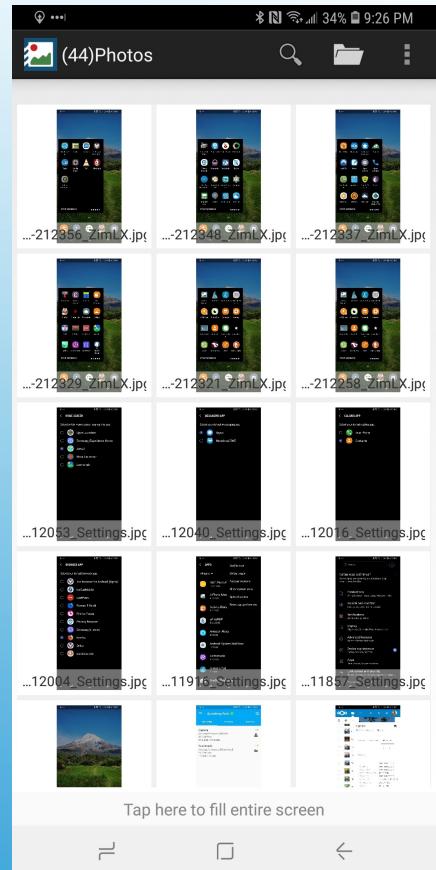


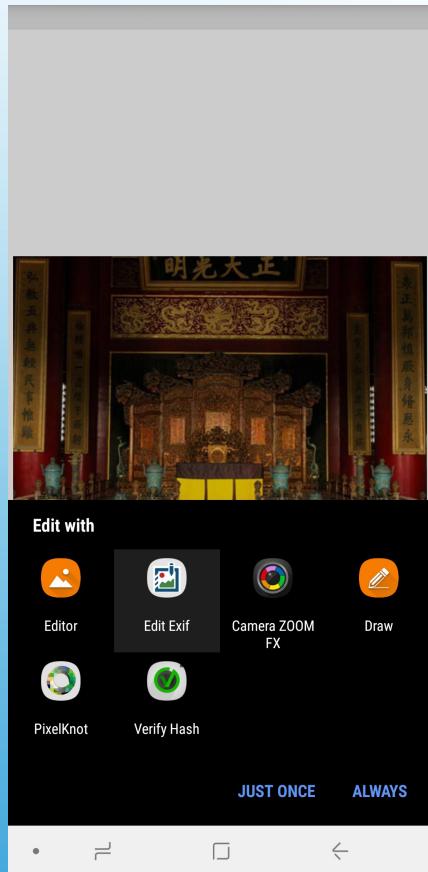


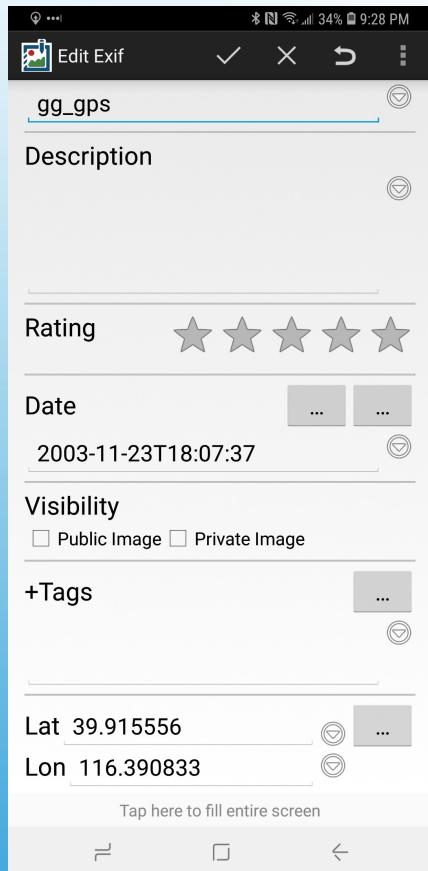


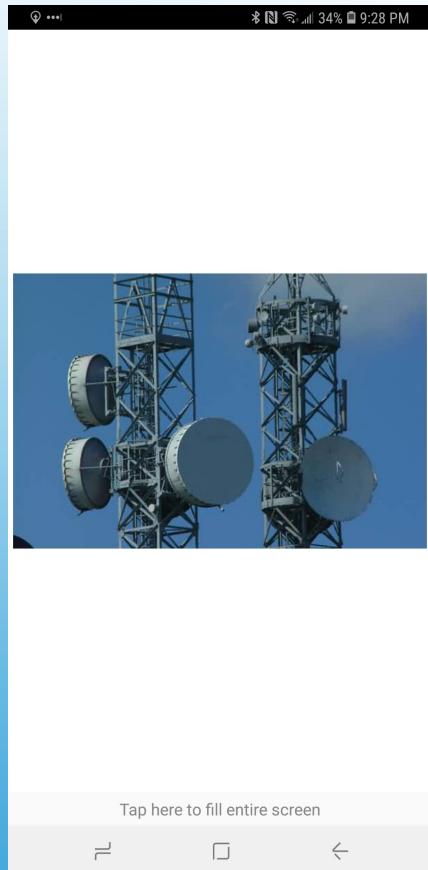




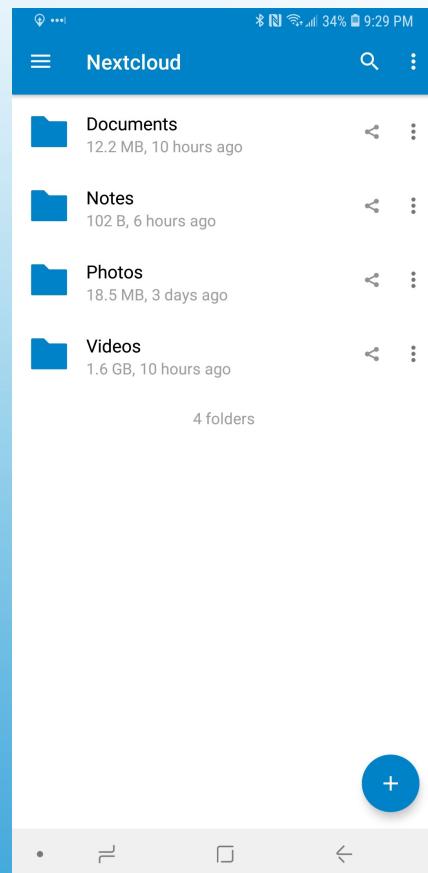


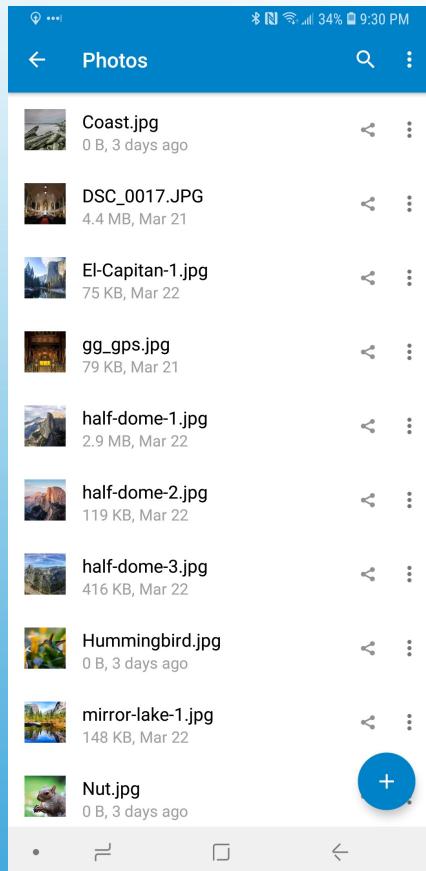


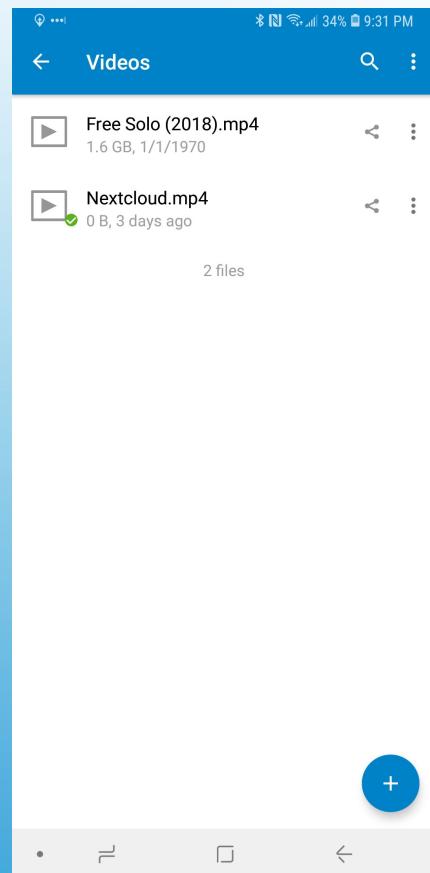


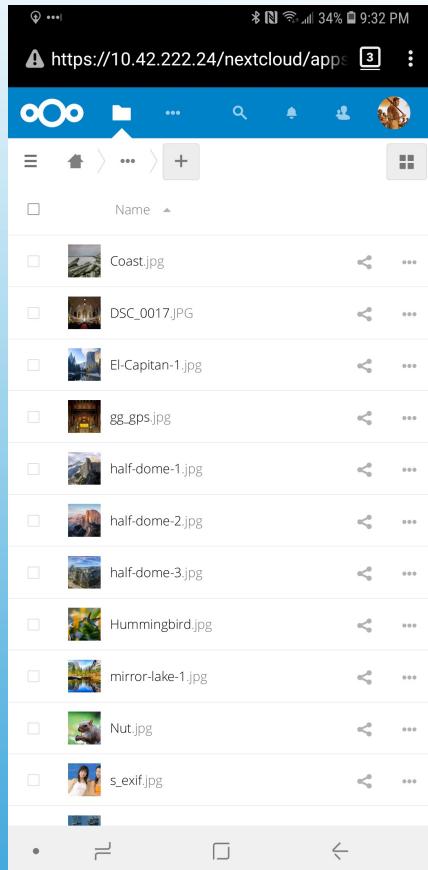


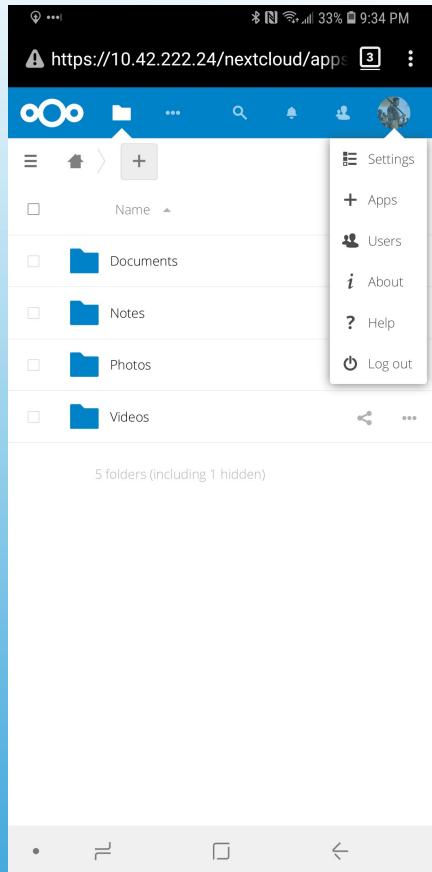
Tap here to fill entire screen

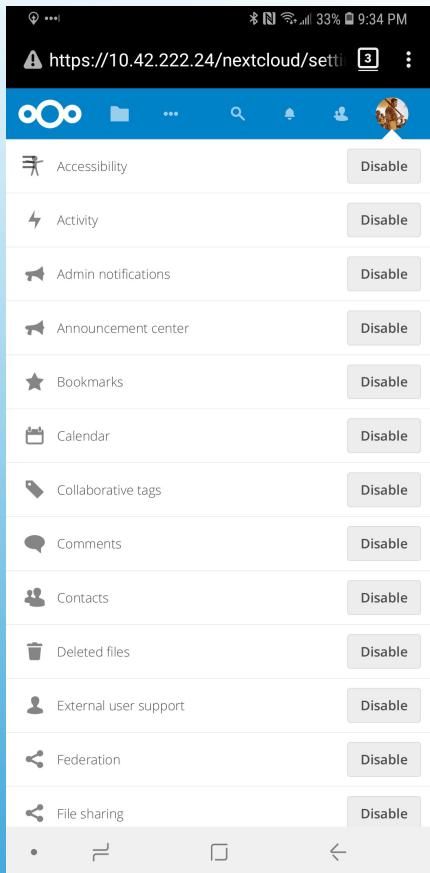


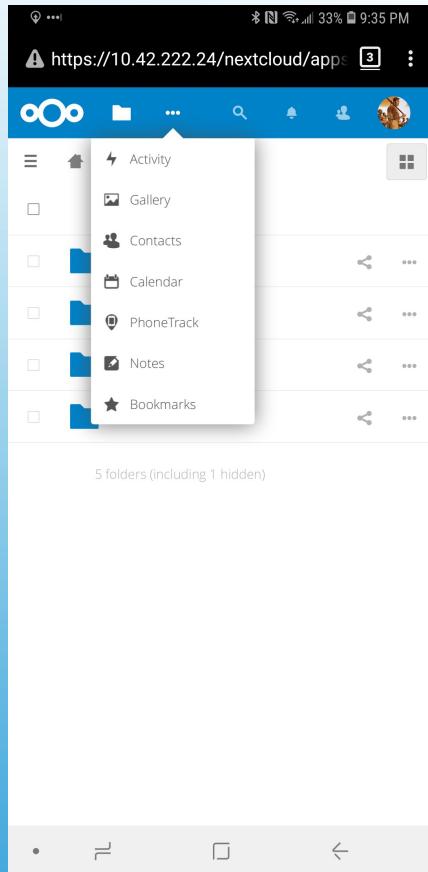


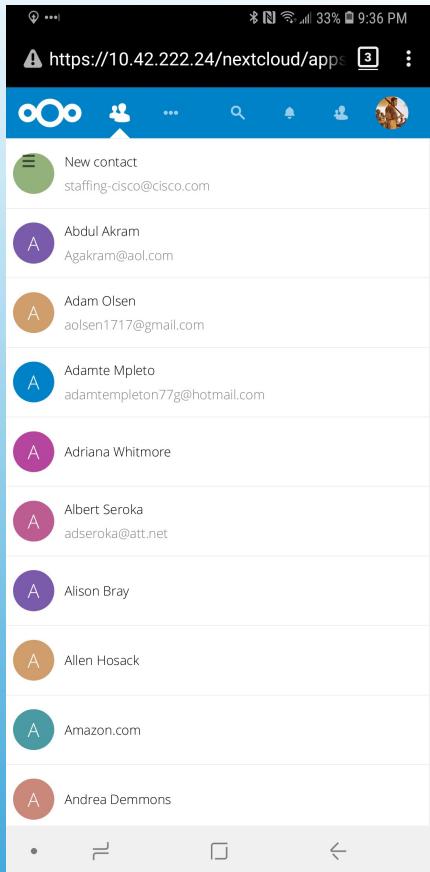


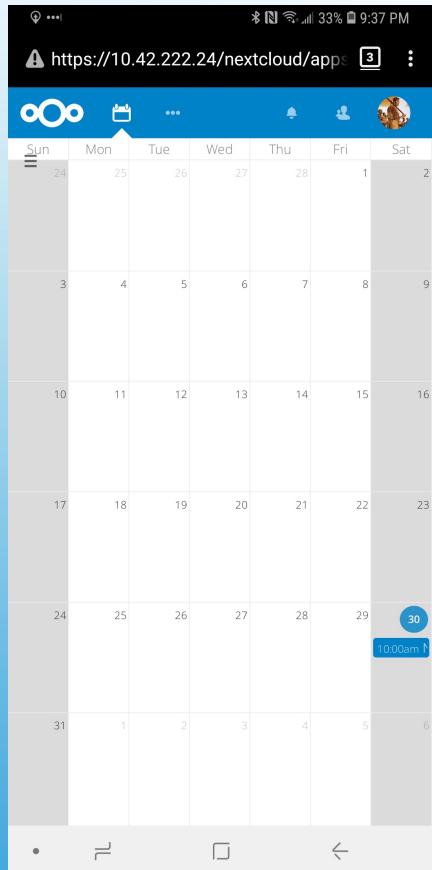


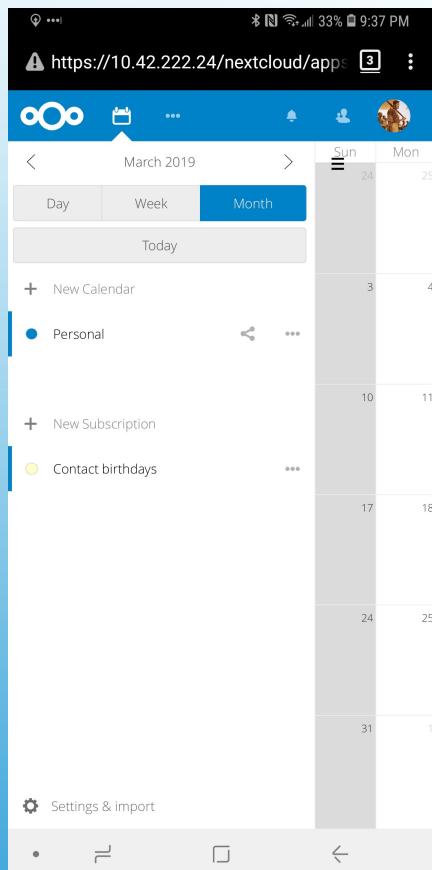


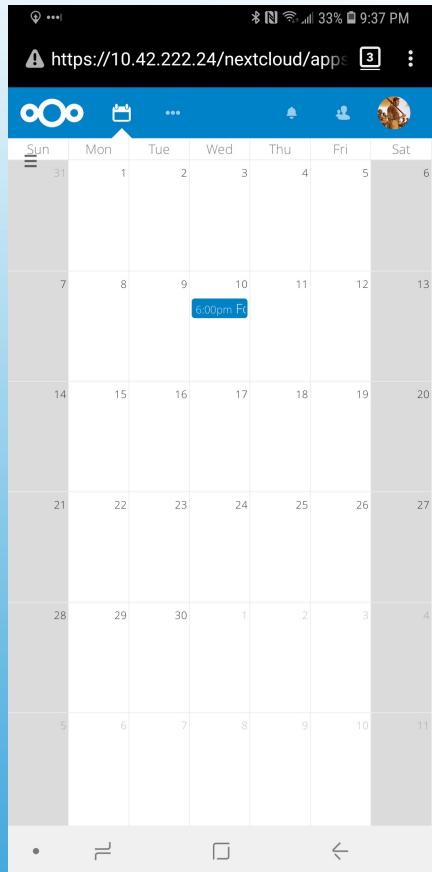


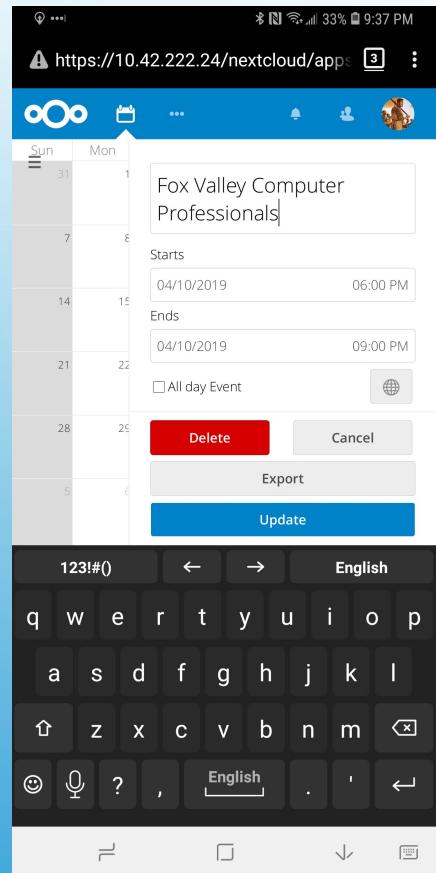


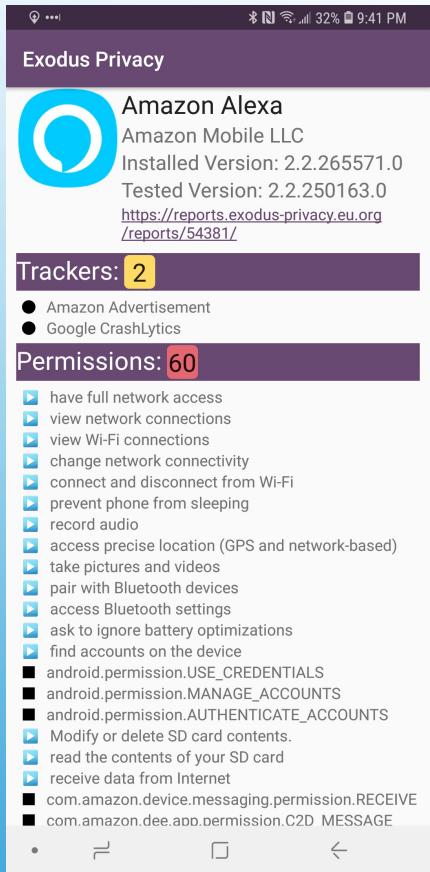


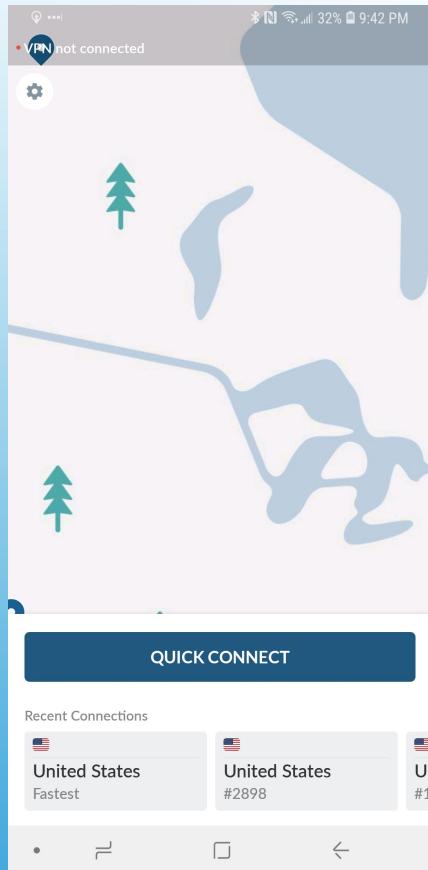


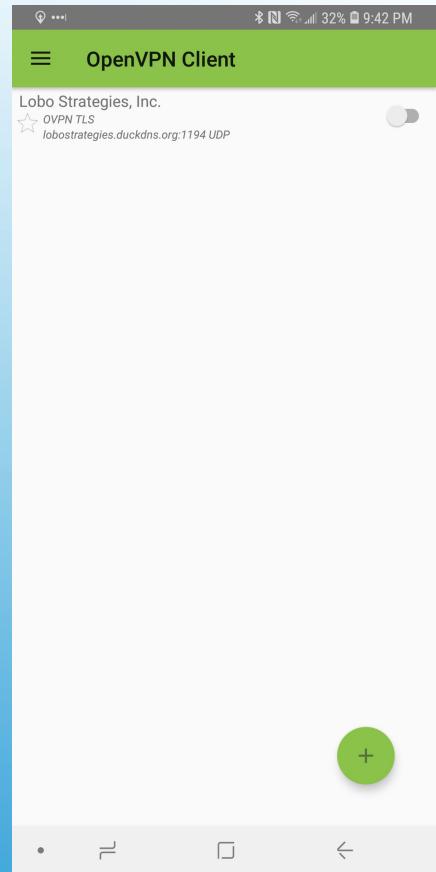


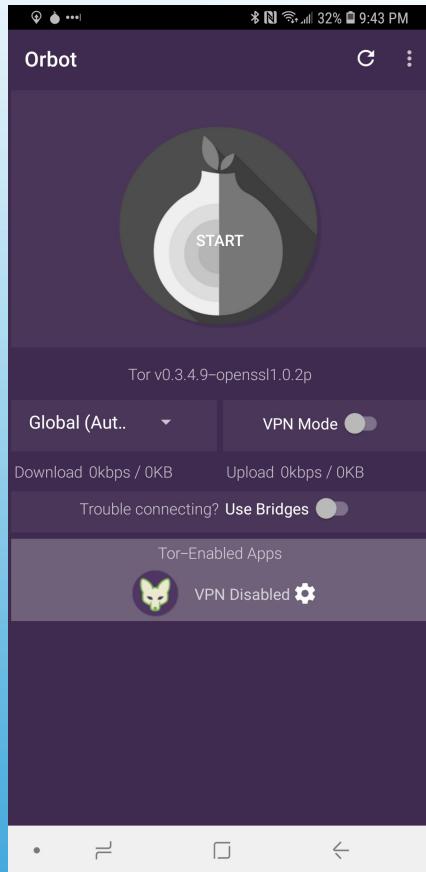


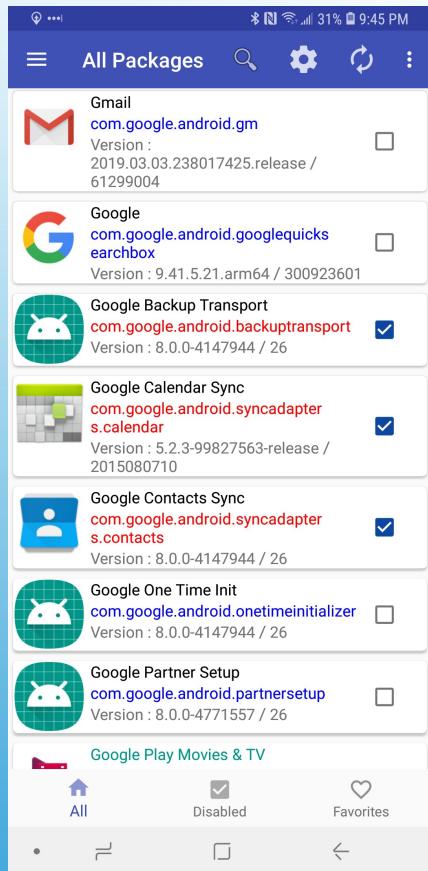


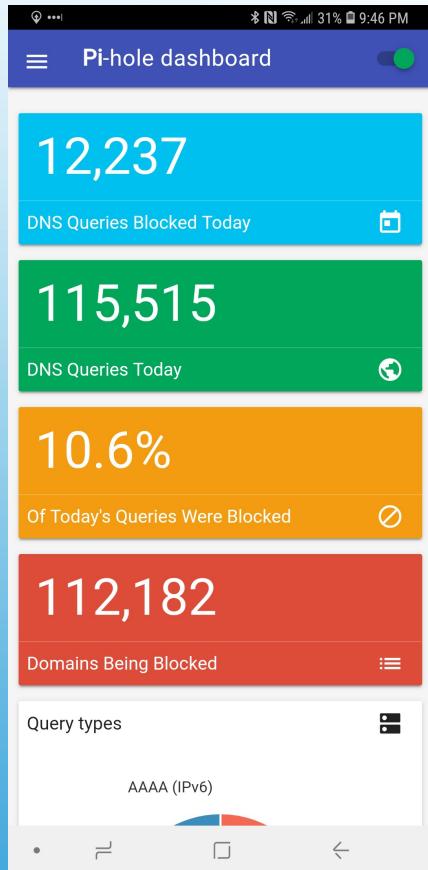












The image shows a mobile phone screen displaying the Pi-hole dashboard. The top status bar shows signal strength, battery level at 31%, and the time 9:46 PM. The main header reads "Pi-hole dashboard".

The dashboard features two main sections:

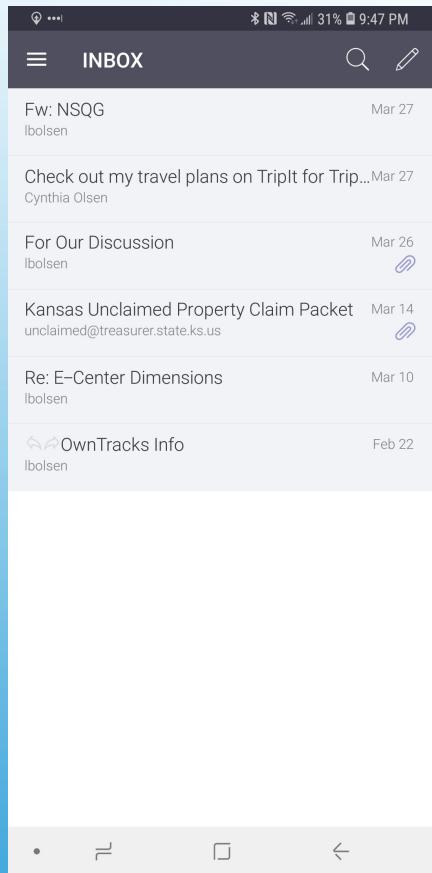
- Top domains**: A table listing domains and their hit counts. The data is as follows:

| Domain | Hit |
|------------------------------|------|
| vilya.lobostrategies.com | 8600 |
| vingilote.lobostrategies.com | 4852 |
| 15.222.42.10.in-addr.arpa | 3407 |
| 10.222.42.10.in-addr.arpa | 3405 |
| 1.222.42.10.in-addr.arpa | 3404 |
| 17.222.42.10.in-addr.arpa | 3403 |
| 18.222.42.10.in-addr.arpa | 3391 |
| 2.222.42.10.in-addr.arpa | 3374 |
| 3.222.42.10.in-addr.arpa | 3362 |
| 6.222.42.10.in-addr.arpa | 3362 |

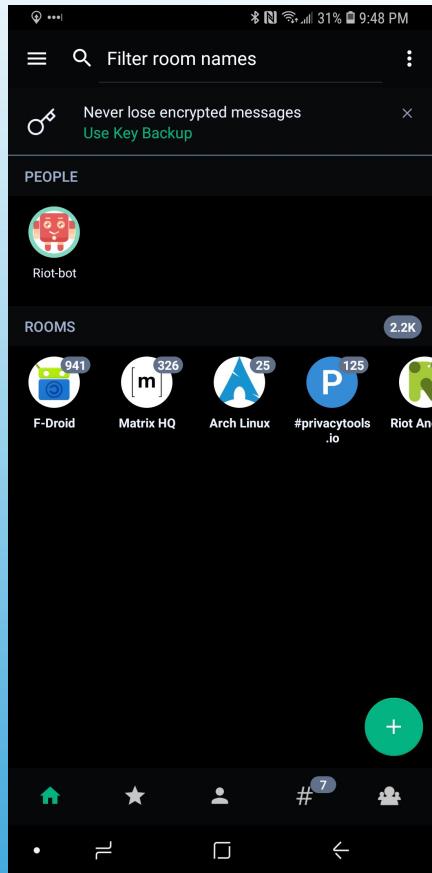
- Top advertisers**: A table listing domains and their hit counts. The data is as follows:

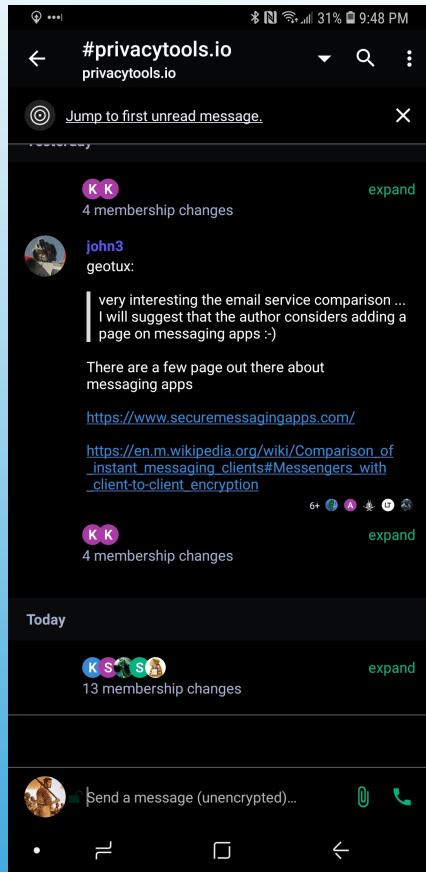
| Domain | Hit |
|----------------------|------|
| cooper.logs.roku.com | 2906 |

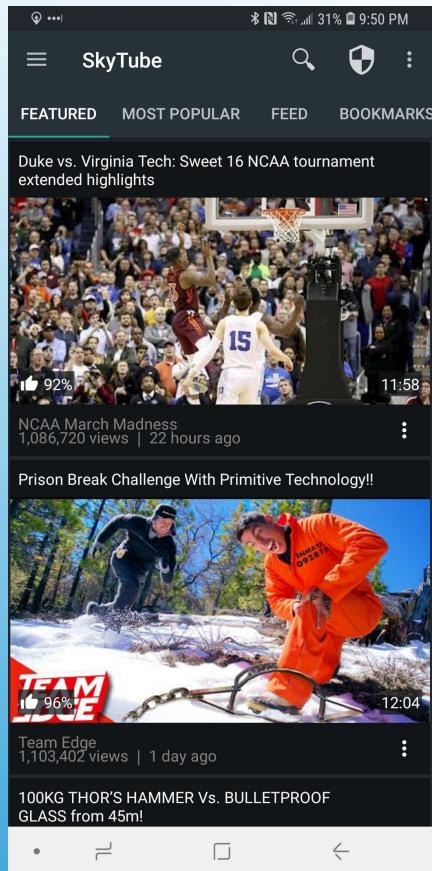
At the bottom of the dashboard are navigation icons: a dot, a square with a circle, a square, and a left arrow.

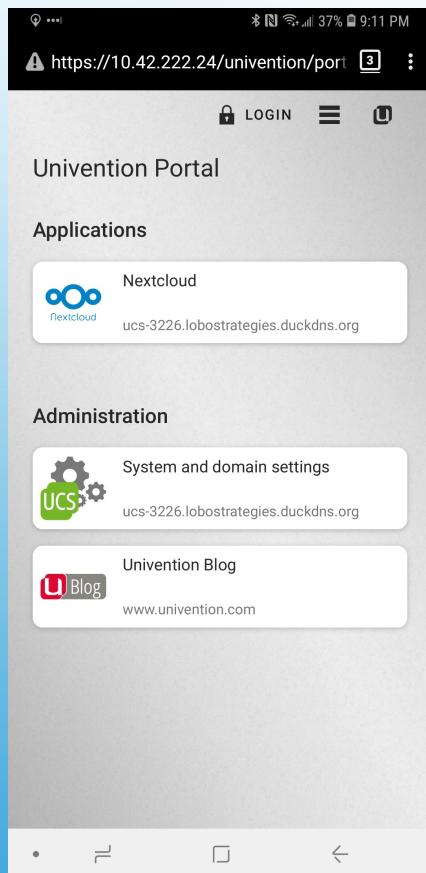


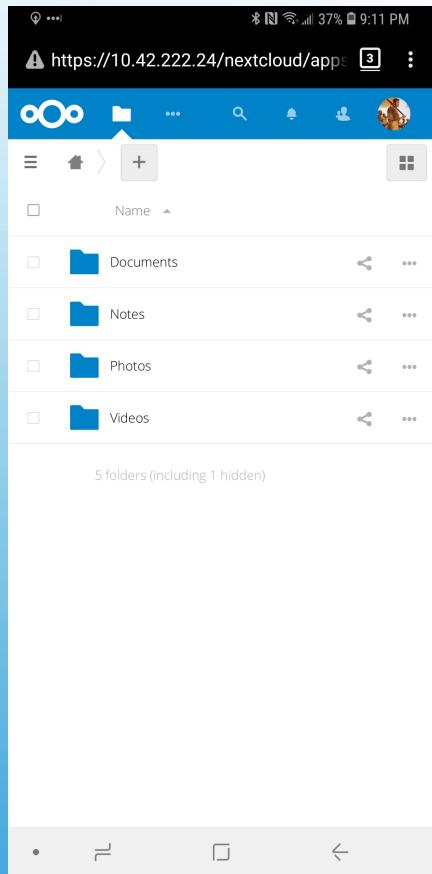


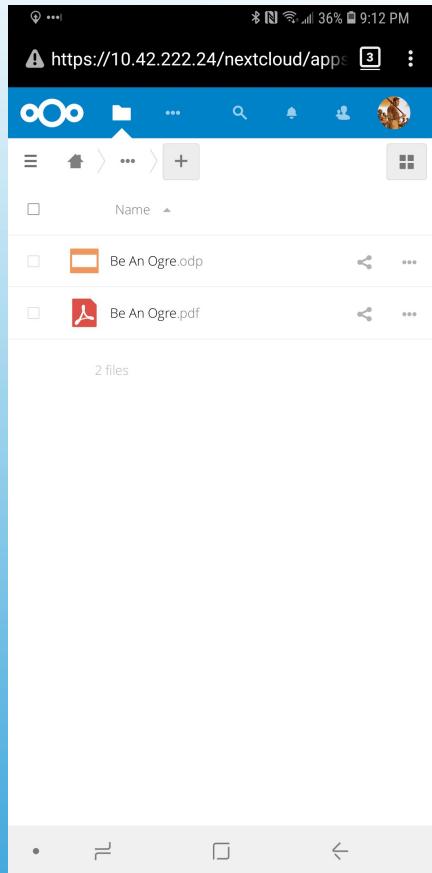


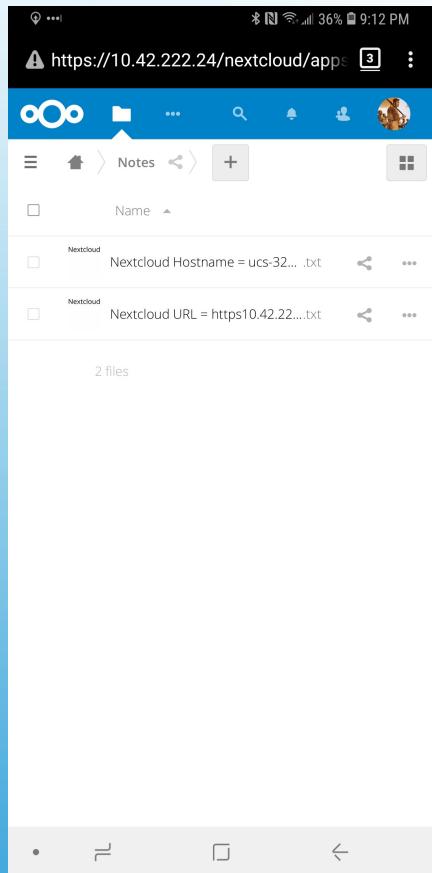


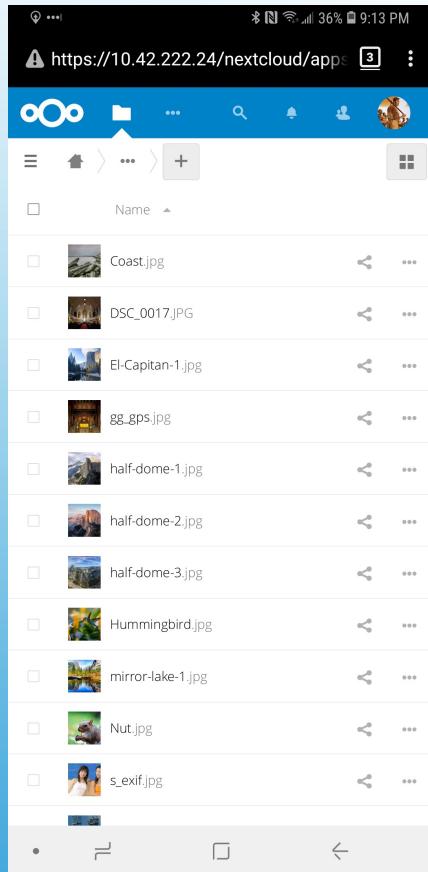


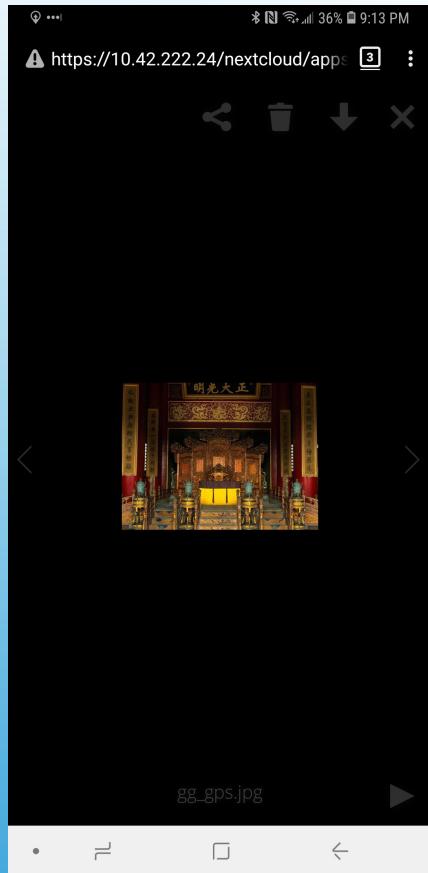


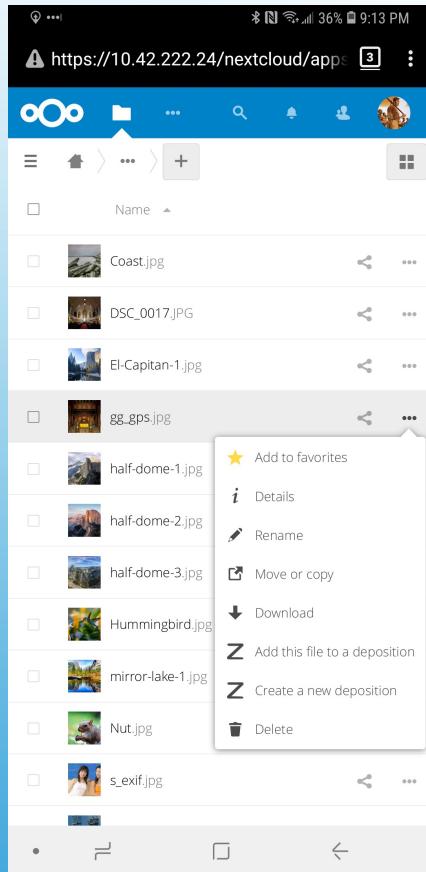


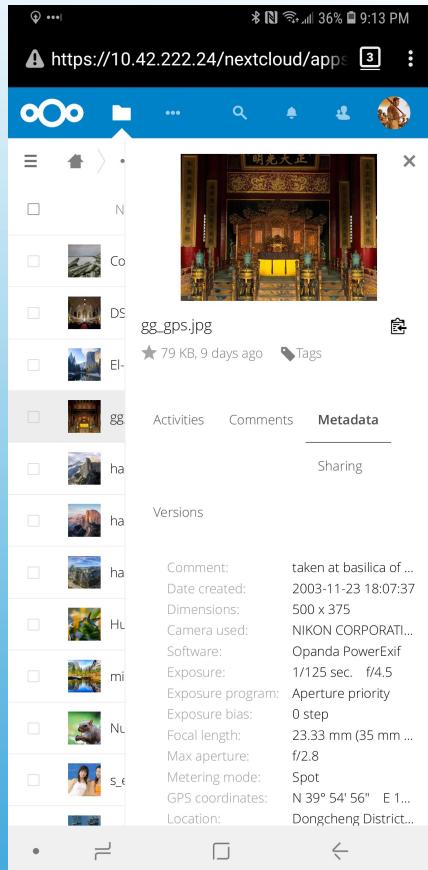


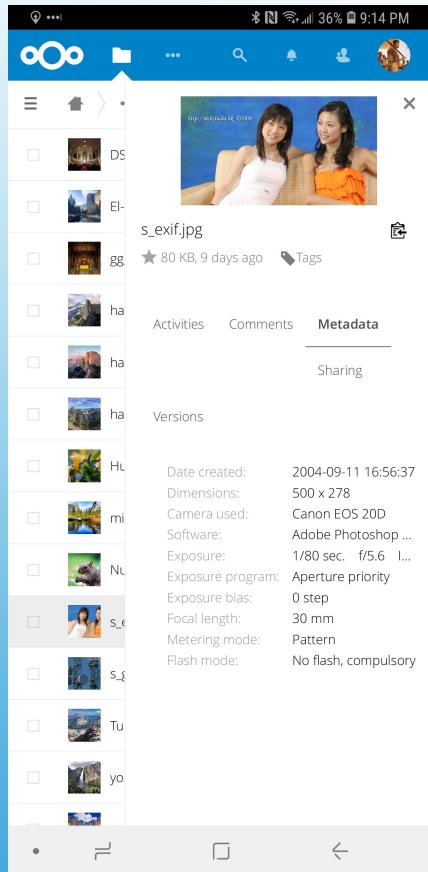


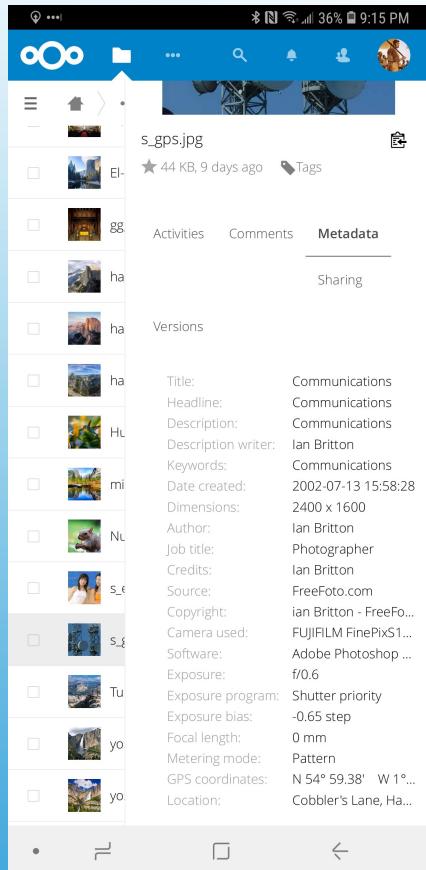


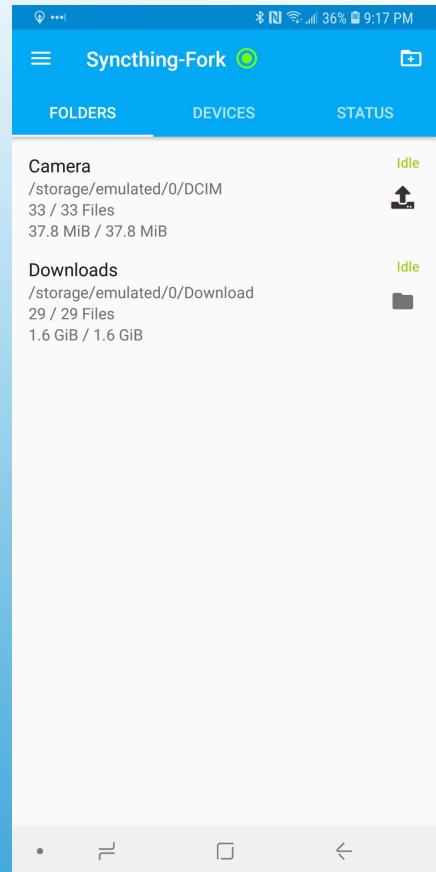














“Every morning in Africa, a gazelle wakes up, it knows it must outrun the fastest lion or it will be killed. Every morning in Africa, a lion wakes up. It knows it must run faster than the slowest gazelle, or it will starve. It doesn't matter whether you're the lion or a gazelle—when the sun comes up, you'd better be running.”



Run, Baby, Run