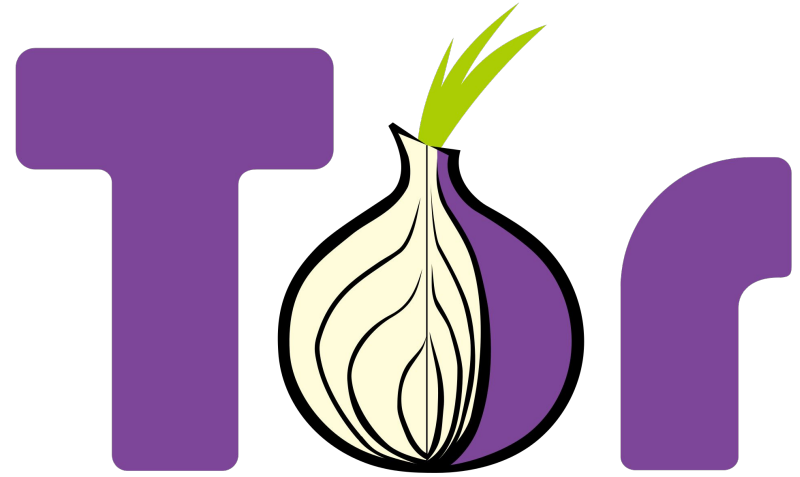


# The Tor Project

Nathan Smith



The Tor Project, Inc., CC BY 3.0 US  
<<https://creativecommons.org/licenses/by/3.0/us/deed.en>>, via  
Wikimedia Commons

# What is the Tor Project?

“All of the people who have been involved in Tor are united by a common belief: internet users should have private access to an uncensored web.” (History)

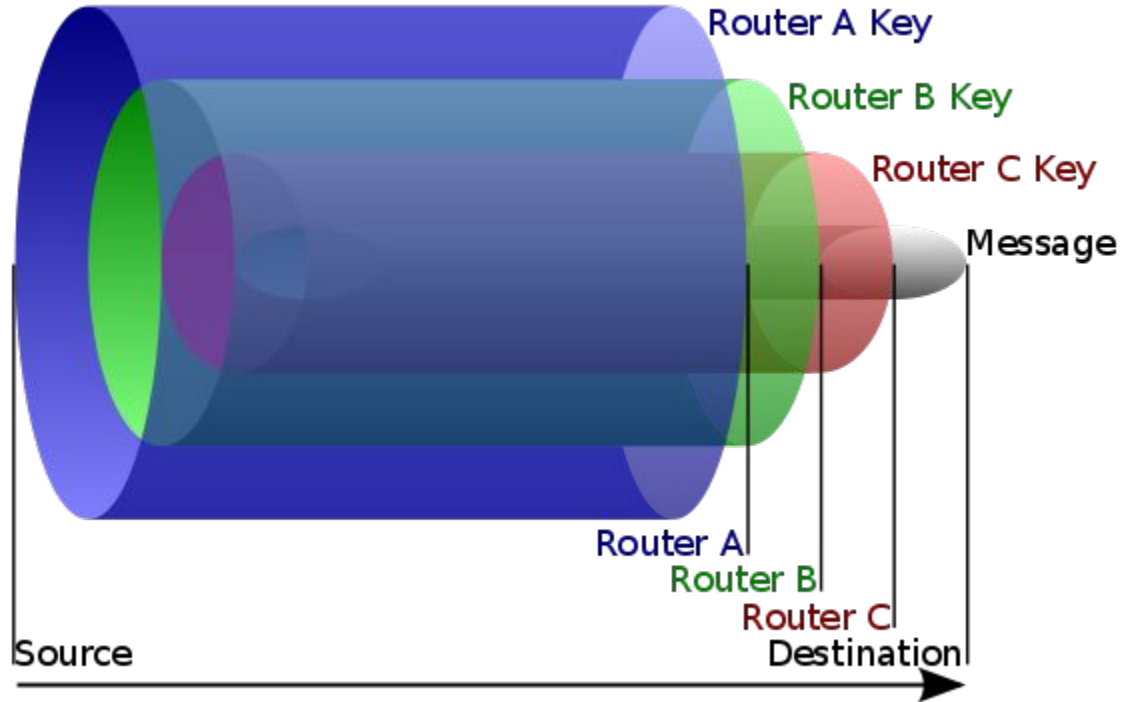
# History

- Founded in 2006

“In the 1990s, the lack of security on the internet and its ability to be used for tracking and surveillance was becoming clear, and in 1995, David Goldschlag, Mike Reed, and Paul Syverson at the U.S. Naval Research Lab (NRL) asked themselves if there was a way to create internet connections that don't reveal who is talking to whom, even to someone monitoring the network.” (History)

# Onion Routing

English Wikipedia user HANtwister, CC BY-SA 3.0  
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# The Project

- Started by Roger Dingledine
- Funding from EFF
- Tor Browser began in 2008

The screenshot shows a web browser window with a DuckDuckGo search for "tor". The search results include a link to the Tor Project website and a Wikipedia entry. The Tor Project website snippet describes the Tor Browser's goal of making all users look the same to prevent fingerprinting, and mentions multi-layered encryption and a network of volunteer-run servers. The Wikipedia entry snippet states that Tor aims to conceal users' identities and online activity from surveillance and traffic analysis by separating identification and routing.

tor

Privacy, simplified. 🔒 🔊 🌐

🔍 All 🖼️ Images ▶ Videos 📰 News 📍 Maps 🗨️ Meanings ⚙️ Settings

🇺🇸 Austria 🔒 Safe search: moderate ⏰ Any time

🔗 <https://www.torproject.org>

### Tor Project | Anonymity Online

Tor Browser aims to make all users look the same, making it difficult for you to be fingerprinted based on your browser and device information. MULTI-LAYERED ENCRYPTION Your traffic is relayed and encrypted three times as it passes over the Tor network. The network is comprised of thousands of volunteer-run servers known as Tor relays.

**Download**  
If Tor is not censored, one of the most common reasons Tor won't...

**Support**  
Tor Browser can certainly help people access your website in places...

**Documentation**  
Documentation - Tor Project | Anonymity Online

**Onion Services**  
As a Tor user, you may authenticate yourself directly in the Tor...

**About**  
The Tor Project, Inc. became a 501(c)(3) nonprofit in 2006, but the...

**Community**  
The Tor Project is committed to fostering an inclusive environment and...

**Tor Network**  
torproject.org

Tor, short for The Onion Router, is free and open-source software for enabling anonymous communication. It directs internet traffic through a free, worldwide, volunteer overlay network, consisting of more than six thousand relays, for concealing a user's location and usage from anyone conducting network surveillance or traffic analysis. [Wikipedia](#)

**Developer(s):** The Tor Project

**Initial release:** September 20, 2002

**Written in:** C, Python, Rust

[Share Feedback](#)

🌐 [https://en.wikipedia.org/wiki/Tor\\_\(network\)](https://en.wikipedia.org/wiki/Tor_(network))

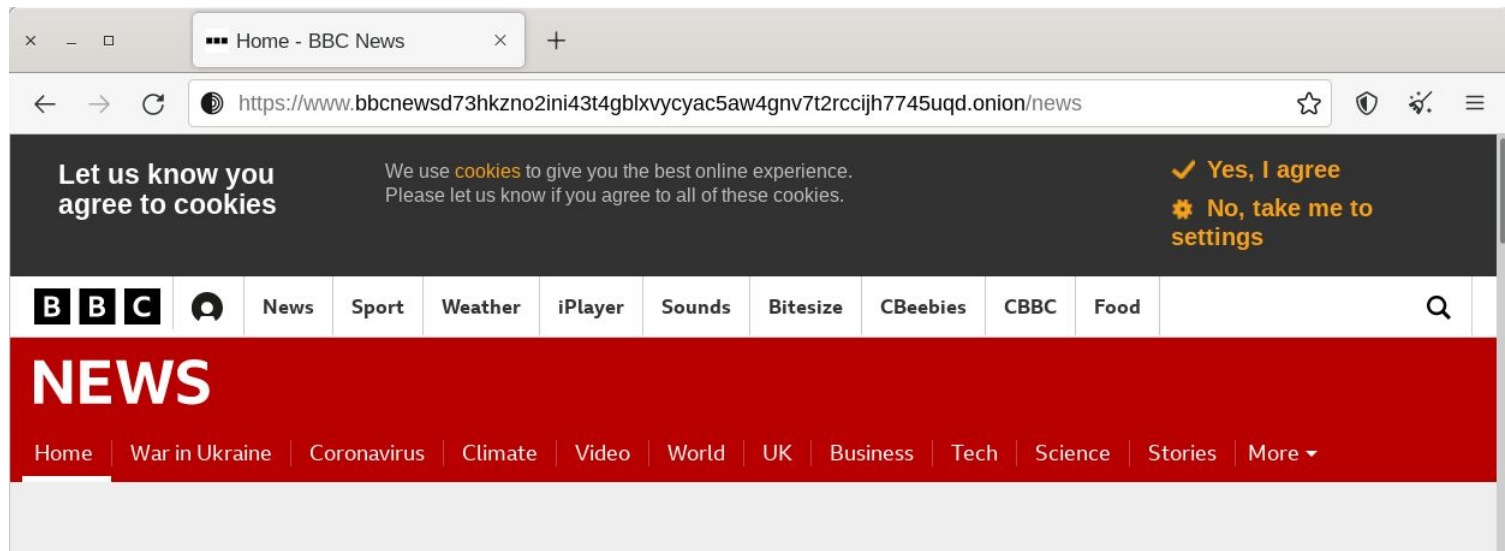
### Tor (network) - Wikipedia

Tor aims to conceal its users' identities and their online activity from surveillance and traffic analysis by separating identification and routing. It is an implementation of onion routing, which encrypts and then randomly bounces communications through a network of relays run by

[Share Feedback](#)

# Hidden Services (or Onion Sites)

- Special web services accessible through Tor
- Don't expose IP addresses



# Surface vs. Deep vs. Dark Webs

## **Tor Mission Statement**

“To advance human rights and freedoms by creating and deploying free and open source anonymity and privacy technologies, supporting their unrestricted availability and use, and furthering their scientific and popular understanding.”



# Circumventing Censorship

- Side effect of redirecting traffic
- Ethics depends on what's being censored

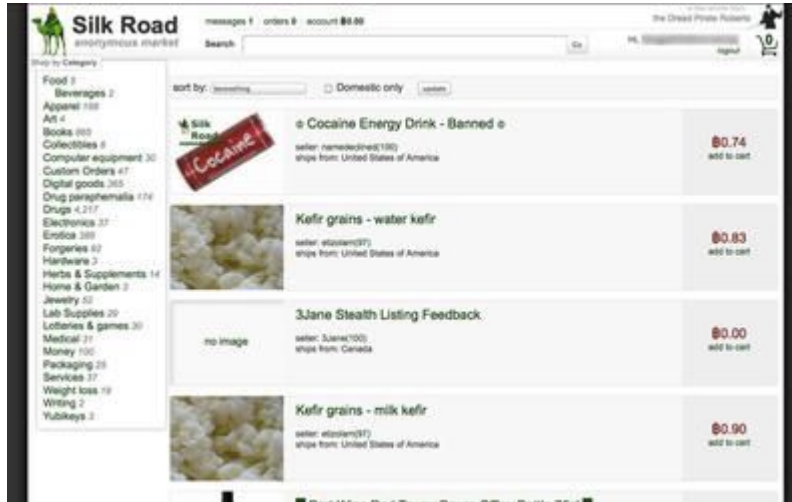
# Privacy/Anonymity

- Tor is a tool
- Utilitarianism

# Unethical Uses for Tor

# Dark Web Marketplaces

- Buying and selling of illegal goods
- Silk Road



Federal Bureau of Investigation, Public domain, via Wikimedia Commons

# Hacking Communities

“In terms of cybersecurity threats, hacking communities are active on Dark Web platforms, where hackers exchange experiences and share information, in addition to circulating hacking tools, malware, ransomware, breached data, and planning large-scale cyberattacks resembling a pattern of an organized crime.” (Basheer and Aklhatib 2-3)

- Selling data, tools, and services on marketplaces

# Other Unethical Uses

"Child pornography and pedophile networks, drugs and arms trade, human trafficking, terrorism and recruitment of extremists, planning terrorist attacks, murderers for hire, hacked digital media trade, counterfeit documents, fraud, and many others." (Basheer and Aklhatib 2)

# Ethical Uses for Hidden Services

# Whistle Blowing

- Safety for whistleblowers
- OnionShare

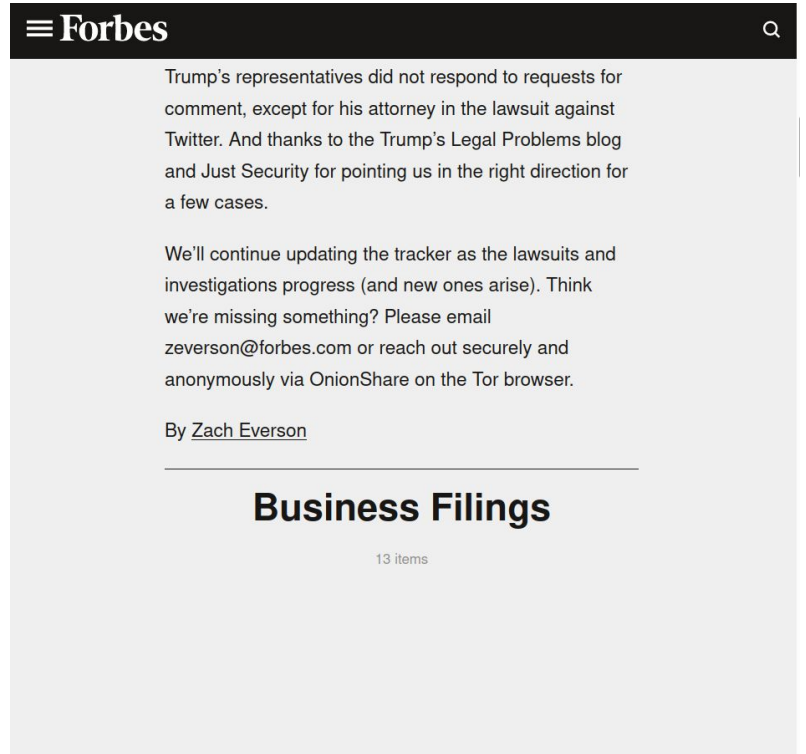
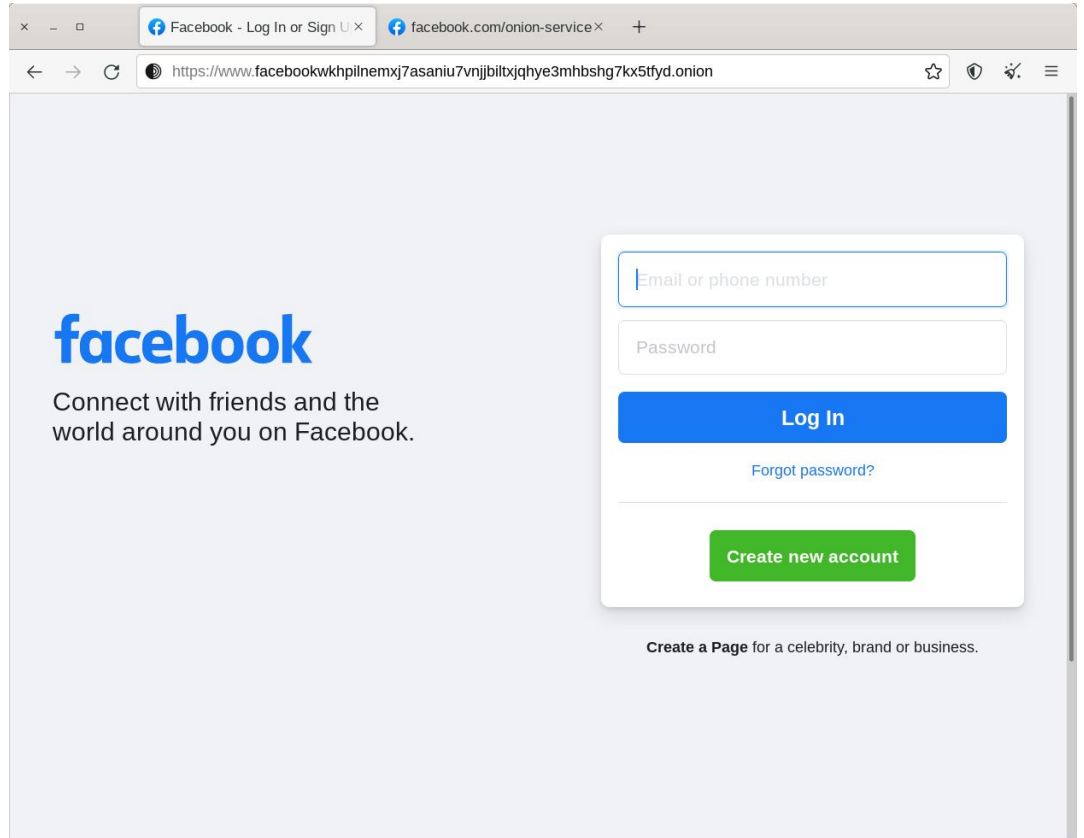


Fig. 1. Everson, Zach. "Tracking Trump: A Rundown Of All The Lawsuits And Investigations Involving The Former President." Forbes, 16 Mar. 2022, [www.forbes.com/sites/zacheverson/2022/02/10/tracking-trump-ar-undown-of-all-the-investigations-and-cases-involving-the-former-president/?sh=4a1ab45a7f24](https://www.forbes.com/sites/zacheverson/2022/02/10/tracking-trump-ar-undown-of-all-the-investigations-and-cases-involving-the-former-president/?sh=4a1ab45a7f24). Accessed 19 Mar. 2022.



# Surface Web Mirrors

- BBC
- CIA
- Facebook
- Twitter
- Deutsche Welle
- The NYT
- DuckDuckGo
- Many others



# Other Ethical Uses

- NGOs
- Activist Groups
- Corporations
- Governments
- Law Enforcement
- General Browsing

# Issues Facing Ethical Analysis

- Too many conceivable uses for Tor
- Subjectivity

# Arguments For and Against

## **For Tor**

“Without Tor in the world, the bad actors will find another tool to achieve their objectives. With Tor in the world, the good actors will continue to have a tool and experts committed to providing safe online channels of communication.” (Misata 45)

## **For Tor**

“Illegal or antisocial behavior is technology indiscriminate. Criminals will select technology opportunistically, and their use of it in most cases says nothing about the technology itself.

Anonymizing services aren't “bad faith” technologies.” (Berghel 87)

# Against Tor (Censorship)

- Russia blocking Tor nodes in 2021.
- China's Great Firewall.

# EARN IT

- EARN IT act possibly reducing safe harbor protections for web hosts.
- Would most likely effect Tor nodes.



# Is there an answer?

- Depends on personal beliefs
- Natural or Prudential right to privacy
- Restriction to limit or prevent actions that are bad for society
- Deeply sensitive issues

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