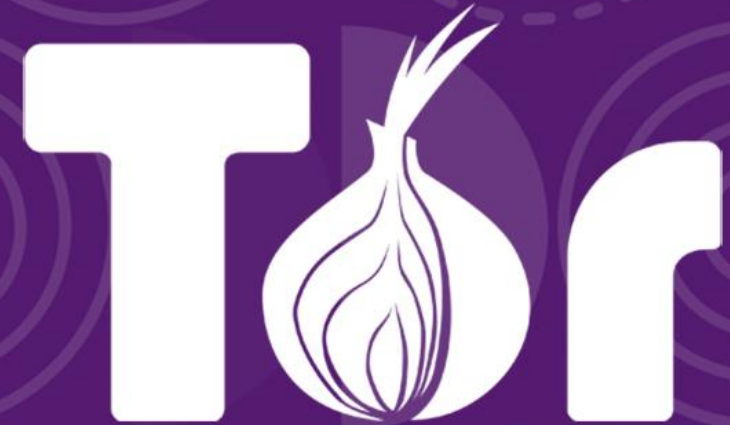# THE TOR BROWSER

BY:DARIAN THAO

What is TOR?

► Tor is an open-source software that allows users to communicate and interact with each other anonymously

► TOR is short for, "The Onion Router"

► Tool used to access the deep web
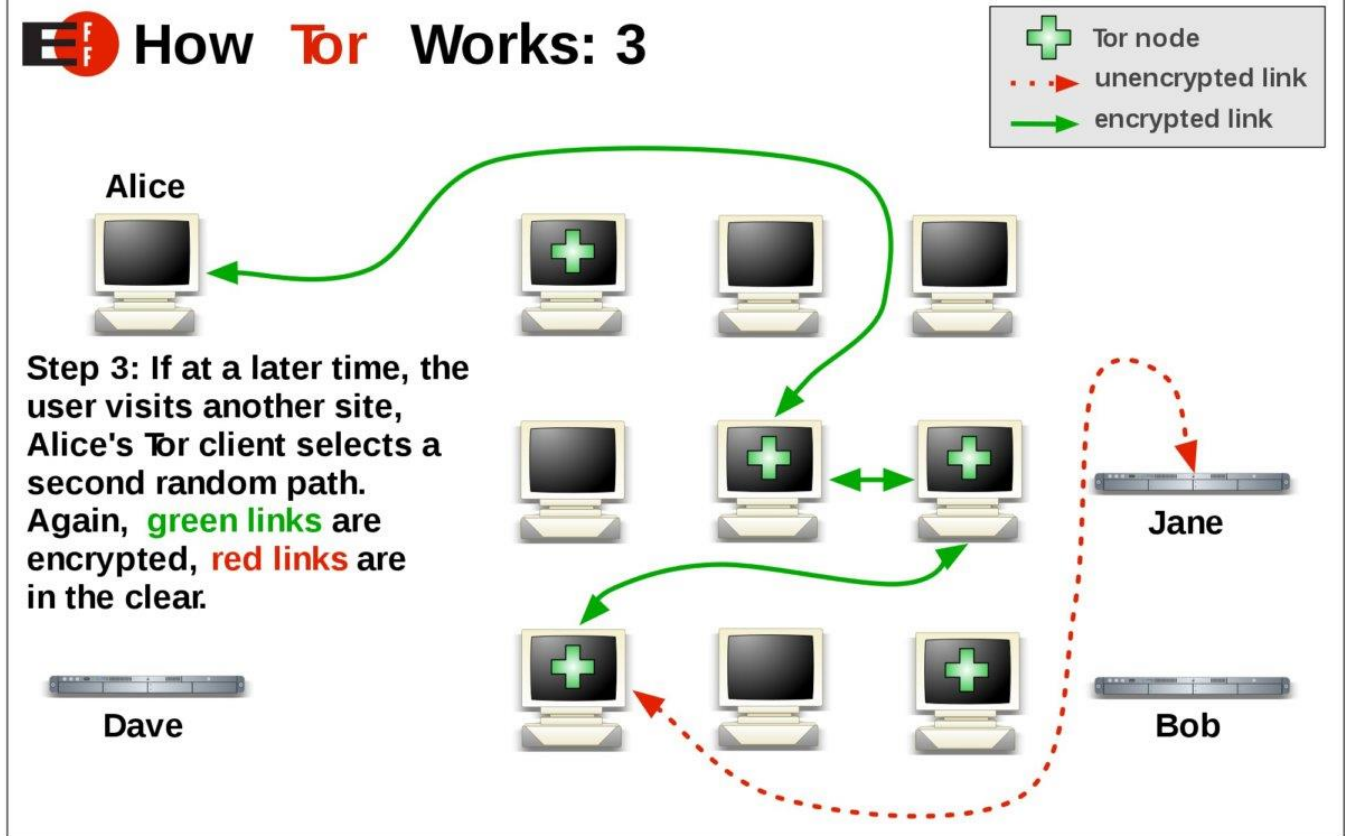
► Site links end in ".onion"

► Not Illegal

The History of TOR

- Mid 1990's: The idea of "onion routing" was discovered by Paul Syverson
- Created by the U.S Naval Research Lab
- Developed in hopes of creating private internet connections
- Early 2000's : Roger Dingledine (MIT Graduate) started the TOR project
- 2002: Officially released to the public
- 2008: Development of the TOR Browser began
- 2019: Tor Announced the release of the Tor Browser for Androids

Intentions of TOR?

▶ TOR was developed in hopes of creating an environment where users would have the ability to exchange information anonymously
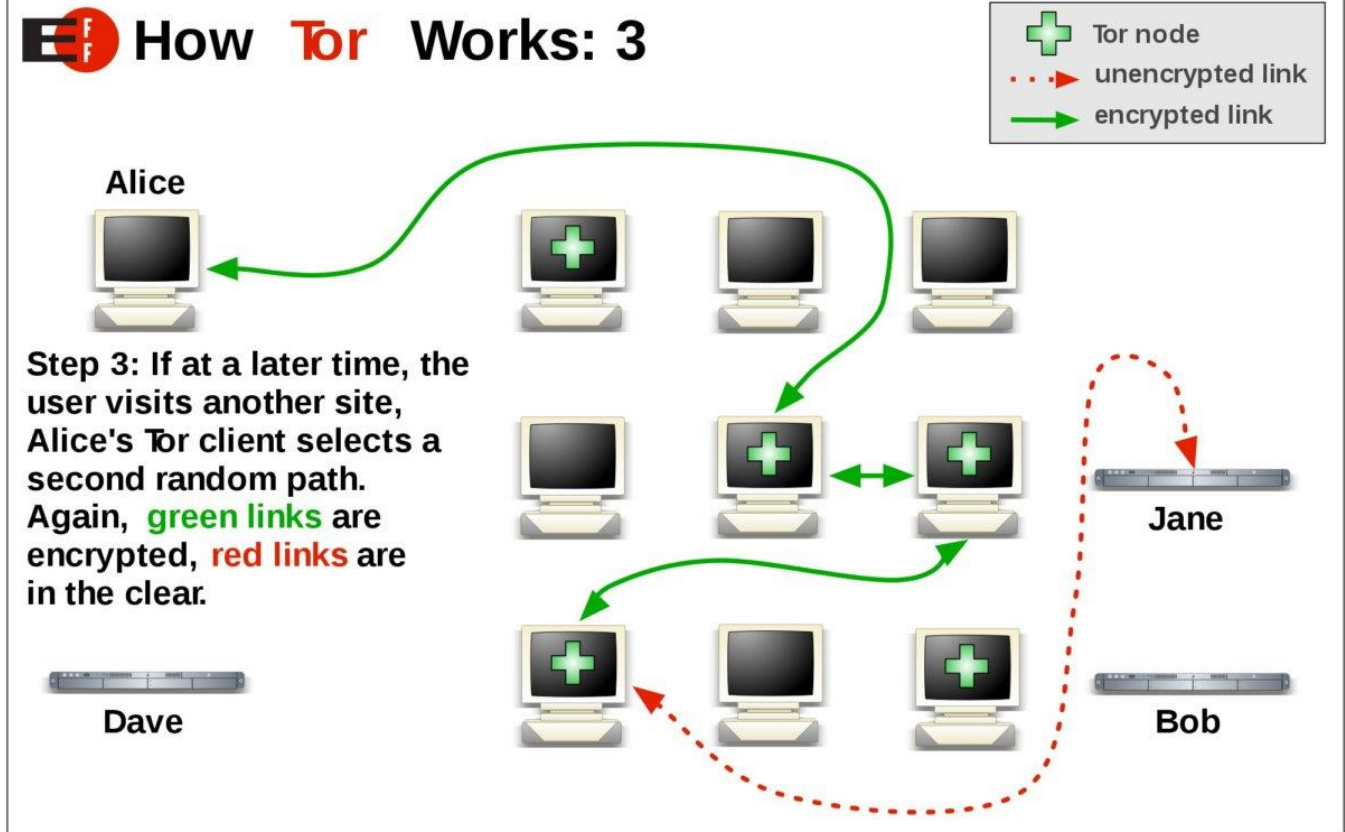
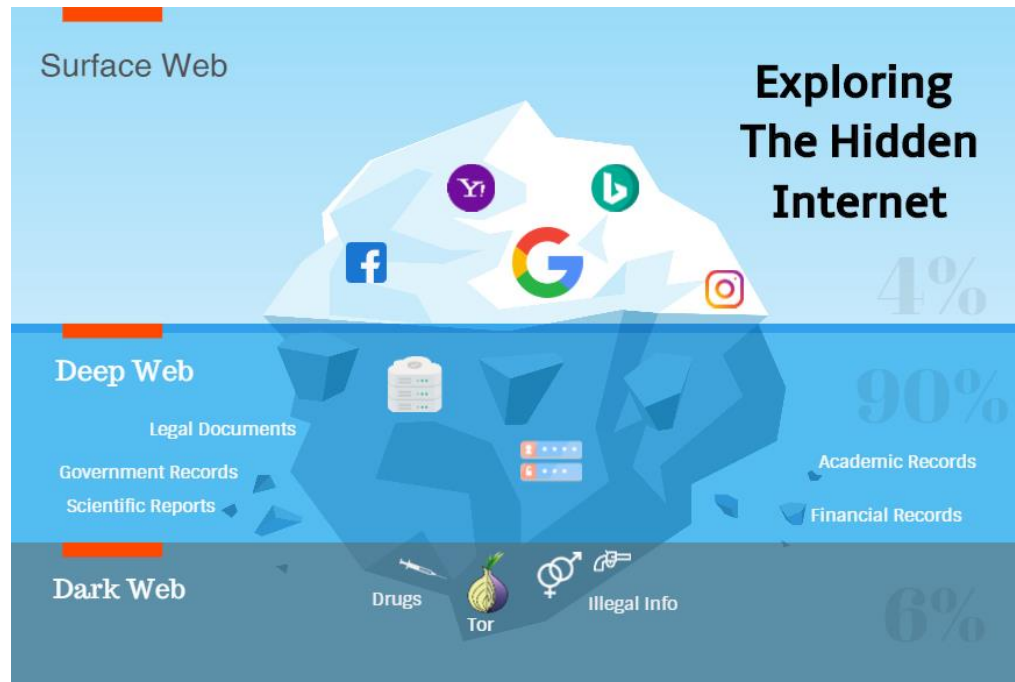▶ Implements a decentralized, distributed node network

Is TOR 100% Secure?

▶ No.

▶ Reason? The Exit Node

How Tor Works: 3

Tor node
unencrypted link
encrypted link

Alice

Step 3: If at a later time, the user visits another site, Alice's Tor client selects a second random path. Again, green links are encrypted, red links are in the clear.

Jane

Dave

Bob

The Web

▶ The internet we know today is divided into 3 parts:

Exploring The Hidden Internet

- Surface Web includes your day to day utilities, Facebook, Twitter, Google Search

- Deep Web and Dark Web can't be viewed through normal search engines (Not Indexed)

- 96% of the internet is part of the deep web

THE DARK WEB

DARK WEB MOVIE

- ▶ Created by Blumhouse Productions in 2018

- ▶ Covers Human Trafficking aspect of the dark net

- ▶ Brings awareness to the dark net

What is the Dark Web?

- Makes up 6% of the Net

- "Sketchy" part of the deep web

- Used for purchasing or exchange of: Medical Records, Drugs, SSN's, Weapons, Credit Cards

- Vice US Credit Card Fraud

BITCOIN

- ▶ Difficult to purchase items over the darknet prior to Bitcoin

- ▶ Bitcoin was developed in 2009

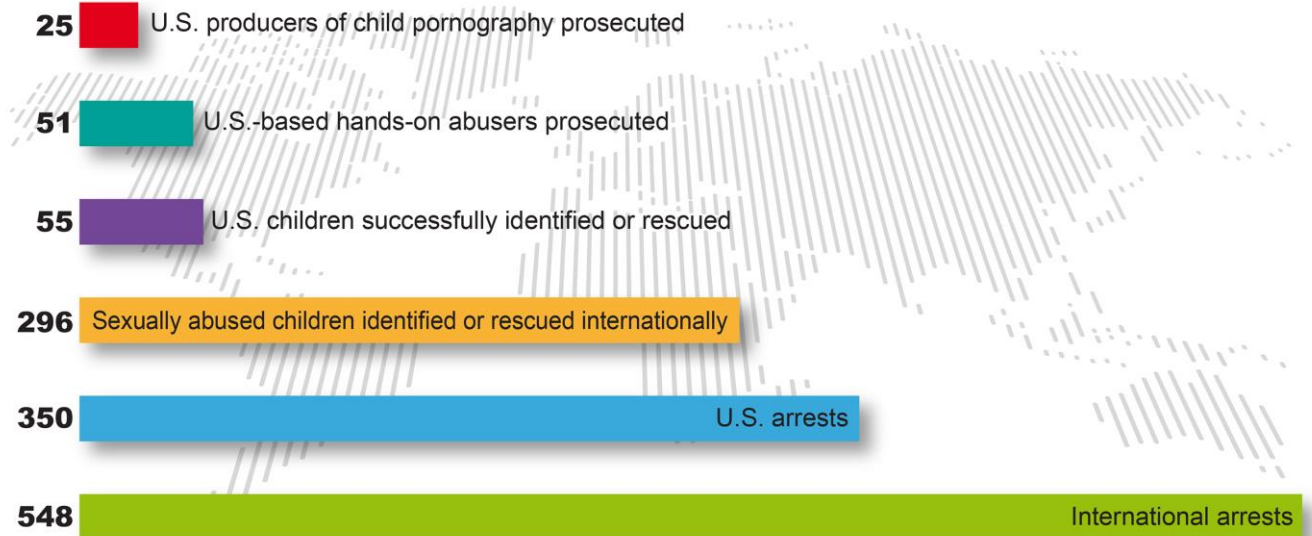- ▶ Users didn't want to risk credit cards leaving a trackable paper trail
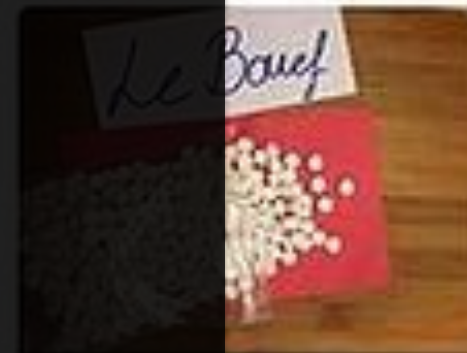
SILK ROAD (MARKETPLACE)

- Created by Ross Ulbricht
- Launched in 2011
- A modern darknet market known for selling illegal drugs
- Eventually shut down by the FBI in 2013
- Ross Ulbricht was convicted, and sentenced to life in prison
- 144,000 bitcoins (122 million)

The Playpen

▶ Created by Steven W. Chase

▶ Largest child pornography website

▶ Eventually shutdown in 2015

'Playpen' by the Numbers

The ongoing investigation of the Playpen child pornography website and its members led to its takedown in 2015 and has produced the following results through continued efforts by law enforcement agencies around the world:

25 U.S. producers of child pornography prosecuted

51 U.S.-based hands-on abusers prosecuted

55 U.S. children successfully identified or rescued

296 Sexually abused children identified or rescued internationally

350 U.S. arrests

548 International arrests

As of May 4, 2017

Positive Uses Of TOR

Tor browser allows users to access blocked information, such as social media, news, and other necessary resources

A Safe Haven for whistleblowers

Can be used to investigate competitors

An option to bypass censorship laws

Alternative For Security

► VPN: Network connection that enables you to create a secure connection to another location

► TOR and VPN can go hand in hand in creating a more secure experience, but service will be slower

	VPN	TOR
Speed	👍 Winner	👎 Loser
Location Spoofing	👍 Winner	👎 Loser
Wide Compatibility	👍 Winner	👎 Loser
Customer Support	👍 Winner	👎 Loser
P2P File Sharing	👍 Winner	👎 Loser
Streaming	👍 Winner	👎 Loser
Free	👎 Loser	👍 Winner
Total Anonymity	👎 Loser	👍 Winner

Ethical Theories

- **Cultural Relativism:**

- **Social Contract Theory:**

- **Kantianism:**

Conclusion

- The Tor Browser is an open source tool that can be used access hidden information

- Still being developed : 2019 Android App

- In time, hopefully more regulations are made to mitigate illegal activities

Sources

▶ Deepwebadmin. "How Dark Web Whistleblowers Work." *Deep Web*, 11 Jan. 2019, www.deepweb-sites.com/dark-web-whistleblowers-work/.

▶ Frankenfield, Jake. "Silk Road Definition." *Investopedia*, Investopedia, 18 Feb. 2020, www.investopedia.com/terms/s/silk-road.asp.

▶ Kastner, Erica. "History of the Dark Web [Timeline]." *Managed IT Services, Copiers and Telephony*, www.soscanhelp.com/blog/history-of-the-dark-web.

▶ Lieu, Anthony, et al. "Is It Legal to Access the Deep Web and Use Tor?" *LegalVision*, 10 July 2019, legalvision.com.au/is-it-legal-to-access-the-deep-web-and-use-tor/.

▶ Porup, J.M. "What Is the Tor Browser? And How the Dark Web Browser Works." *CSO Online*, CSO, 15 Oct. 2019, www.csoonline.com/article/3287653/what-is-the-tor-browser-how-it-works-and-how-it-can-help-you-protect-your-identity-online.html.

▶ Routley, Nick. "The Dark Side of the Internet." *Visual Capitalist*, 11 Mar. 2019, www.visualcapitalist.com/dark-web/.

▶ Symanovich, Steve. "How to Safely Access the Deep and Dark Webs." *Official Site*, us.norton.com/internetsecurity-how-to-how-can-i-access-the-deep-web.html.