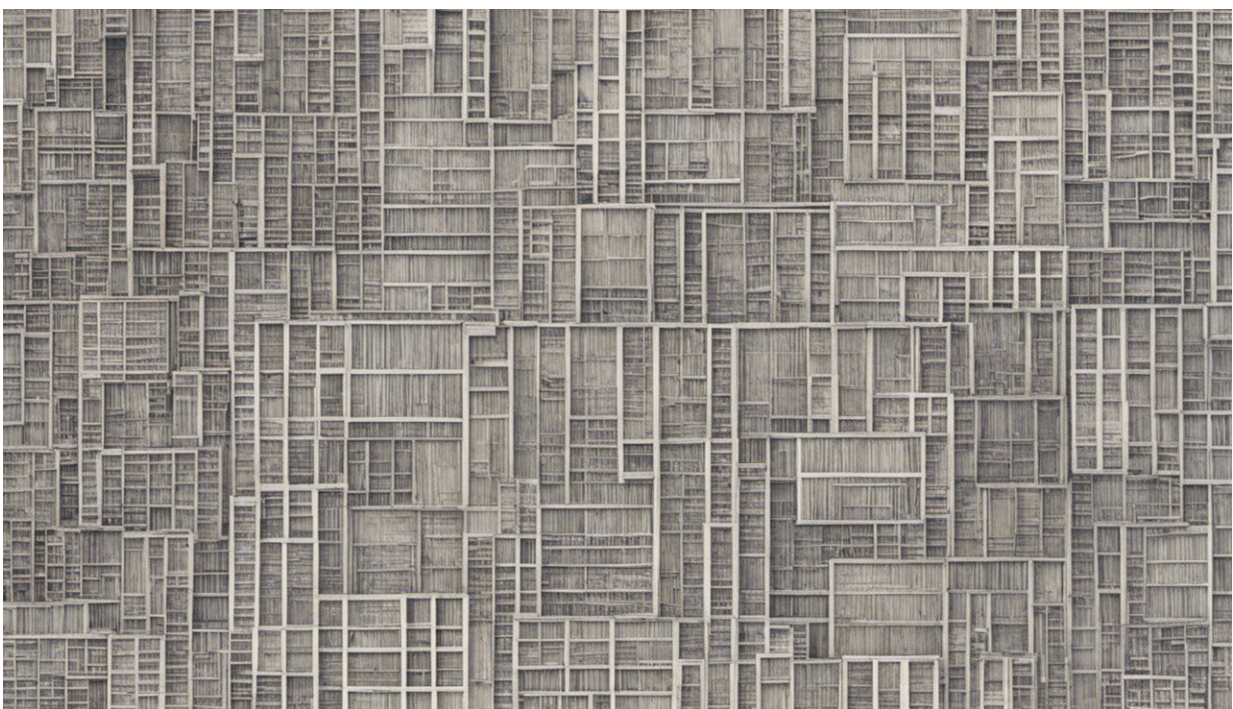


Far beyond crime-ridden depravity, darknets are key strongholds of freedom of expression online

January 26 2017, by Roderick S. Graham



Credit: AI-generated image ([disclaimer](#))

The internet is much more than just the publicly available, Google-able web services most online users frequent – and that's good for free expression. Companies frequently create private networks to enable employees to use secure corporate servers, for example. And free

software allows individuals to create what are called "peer-to-peer" networks, connecting directly from one machine to another.

Unable to be indexed by current search engines, and therefore less visible to the general public, subnetworks like these are often called "darknets," or collective as the singular "darknet." These networks typically use software, such as [Tor](#), that anonymizes the machines connecting to them, and [encrypts the data](#) traveling through their connections.

Some of what's on the darknet is alarming. A 2015 story from [Fox News](#) reads:

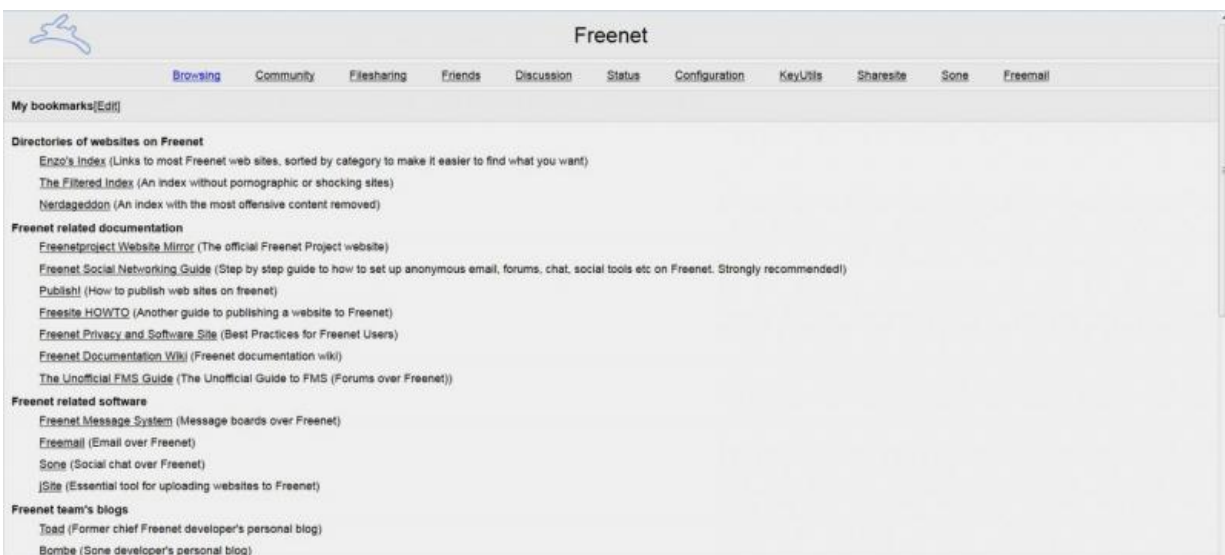
"Perusing the darknet offers a jarring jaunt through jaw-dropping depravity: Galleries of [child pornography](#), videos of humans having sex with animals, offers for sale of illegal drugs, weapons, stolen credit card numbers and fake identifications for sale. Even human organs reportedly from Chinese execution victims are up for sale on the darknet."

But that's not the whole story – nor the whole content and context of the darknet. Portraying the darknet as primarily, or even solely, for criminals ignores the societal forces that push people toward these anonymous networks. Our research into the content and activity of [one major darknet, called Freenet](#), indicates that darknets should be understood not as a crime-ridden "[Wild West](#)," but rather as "wilderness," spaces that by design are meant to remain unsullied by the civilizing institutions – law enforcement, governments and corporations – that have come to dominate the internet.

There is definitely illegal activity on the darknet, as there is on the open internet. However, many of the people using the darknet have a diverse range of motives and activities, linked by a common desire to reclaim what they see as major benefits of technology: privacy and free speech.

Describing Freenet

Our research explored [Freenet](#), an anonymous peer-to-peer network accessed via a freely downloadable application. In this type of network, there are no centralized servers storing information or transferring data. Rather, each computer that joins the network takes on some of the tasks of sharing information.



An introductory page on Freenet. Credit: Roderick Graham and Brian Pitman, CC BY-ND

When a user installs Freenet, her computer establishes a connection to a small group of existing Freenet users. Each of these is connected in turn to other Freenet users' computers. Through these connections, the entire contents of the network are available to any user. This design allows Freenet to be decentralized, anonymous and resistant to surveillance and censorship.

Freenet's software requires users to donate a portion of their local hard drive space to store Freenet material. That information is automatically encrypted, so the computer's owner does not know what files are stored or the contents of those files. Files shared on the network are stored on numerous computers, ensuring they will be accessible even if some people turn off their machines.

Joining the network

As researchers, we played the role of a novice Freenet user. The network allows many different types of interaction, including social networking sites and even the ability to build direct relationships with other users. But our goal was to understand what the network had to offer to a new user just beginning to explore the system.

There are several Freenet sites that have used web crawlers to index the network, offering a sort of directory of what is available. We visited one of these sites to download their list. From the 4,286 total sites in the index we chose, we selected a random sample of 427 sites to visit and study more closely. The sites with these indexes are a part of the Freenet network, and therefore can be accessed only by users who have downloaded the software. Standard search engines cannot be used to find sites on Freenet.

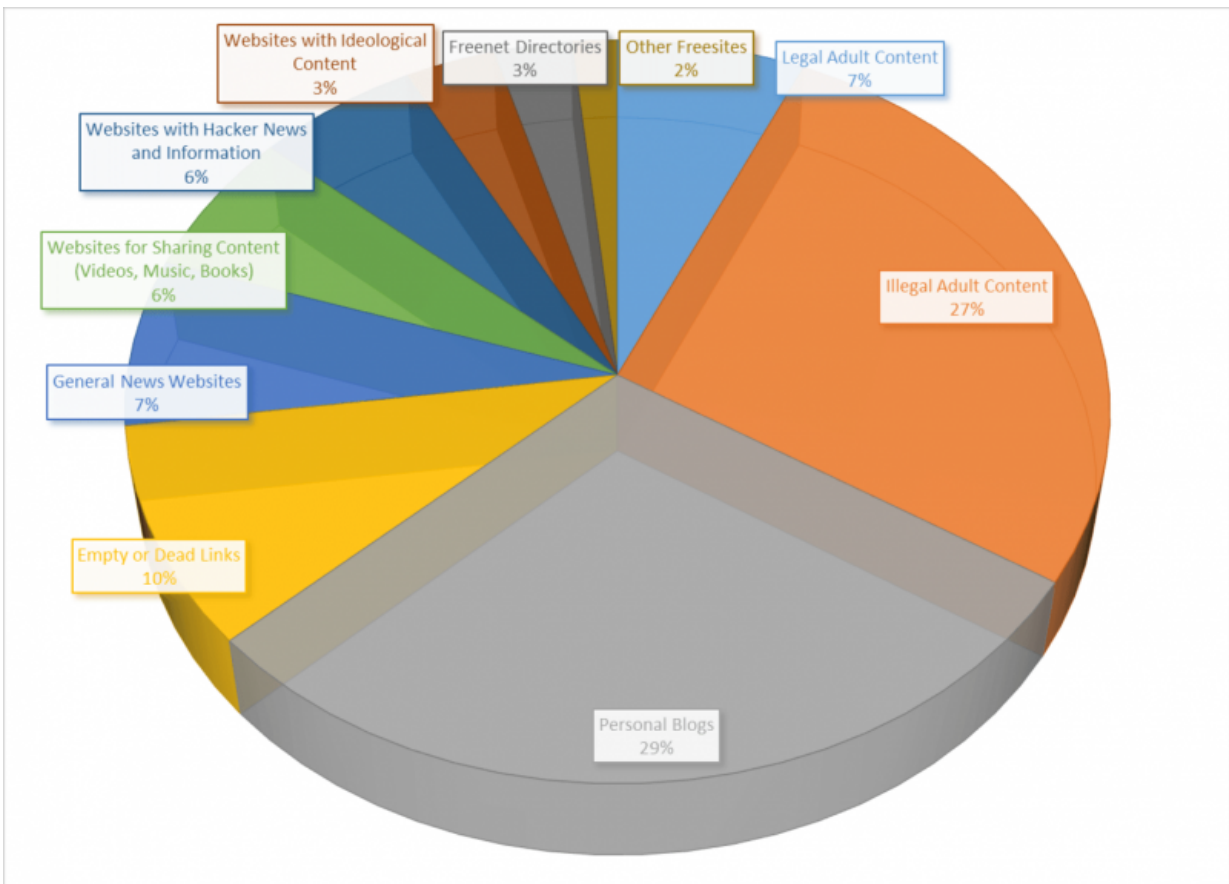
Finding a 'hacker ethic'

What we found indicated that Freenet is dominated by what scholars call a "[hacker ethic](#)." This term encompasses a group of progressive and libertarian beliefs often espoused by hackers, which are primarily concerned with [these ideals](#):

- Access to information should be free;

- Technology can, and should, improve people's lives;
- Bureaucracy and authority are not to be trusted;
- A resistance to conventional and mainstream lifestyles

Some of that may be because using darknet technology often requires [additional technical understanding](#). In addition, [people with technical skills](#) may be more likely to want to find, use and even create services that have technological protections against surveillance.



A pie chart shows the share of Freenet sites devoted to particular types of content. Credit: Roderick Graham and Brian Pitman, CC BY-ND

Our reading of hacking literature suggests to us that the philosophical and ideological beliefs driving darknet users are not well-known. But without this context, what we observed on Freenet would be hard to make sense of.

There were Freenet sites for sharing music, e-books and video. Many sites were focused around personal self-expression, like regular internet blogs. Others were dedicated to promoting a particular ideology. For example, socialist and libertarian content was common. Still other sites shared information from whistle-blowers or government documents, including a copy of the Wikileaks website's data, complete with its "Afghan War Diary" of classified documents about the United States military invasion of Afghanistan following the Sept. 11, 2001 terrorist attacks.

With the hacker ethic as a guide, we can understand that most of this content is from individuals who have a deep mistrust of authority, reject gross materialism and conformity, and wish to live their digital lives free of surveillance.

What about crime?

There is criminal activity on Freenet. About a quarter of the sites we observed either delivered or linked to child pornography. This is alarming, but must be seen in the proper context. Legal and ethical limits on researchers make it very hard to [measure the magnitude of pornographic activity online](#), and specifically child pornography.

Once we came upon a site that purported to have child pornography, we left the site immediately without investigating further. For example, we did not seek to determine whether there was just one image or an entire library or marketplace selling pornographic content. This was a good idea from the perspectives of both law and ethics, but did not allow us to

gather any real data about how much pornography was actually present.

Other research suggests that the presence of child pornography is not a darknet or Freenet problem, but an internet problem. Work from the [the Association for Sites Advocating Child Protection](#) points to [pervasive sharing of child pornography](#) well beyond just Freenet or even the wider set of darknets. Evaluating the darknet should not stop just at the presence of illegal material, but should extend to its full content and context.

With this new information, we can look more accurately at the darknet. It contains many distinct spaces catering to a wide range of activities, from meritorious to abhorrent. In this sense, the darknet is no more dangerous than the rest of the internet. And darknet services do provide anonymity, privacy, freedom of expression and security, even in the face of a growing surveillance state.

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