

Onion service survey

January 26, 2018

This document is part of a research project on how Tor users interact with onion services. More information about this project is available online at <https://nymity.ch/onion-services/>.

Below, you can find our online survey, consisting of seven sections. Each section holds a number of questions and their respective response options. In the responses, circles indicate that only one response can be selected while squares indicate the possibility to select multiple responses.

1 Demographic information

1. What is your gender?

- Female
- Male
- Other

2. What is your age?

- 18–25 years
- 26–35 years
- 36–45 years
- 46–55 years
- 56–65 years
- Older than 65 years

3. What is the highest level of education that you completed?

- Some education, but no high school diploma or equivalent
- High school diploma or equivalent
- College or university degree (for example a bachelor's degree)
- Post-graduate education (for example a master's or a doctorate degree)

4. How would you rate your knowledge about Internet privacy and security?

- No knowledge
- Mildly knowledgeable
- Moderately knowledgeable
- Highly knowledgeable
- Expert

2 Tor usage

1. Tor Browser is a web browser—similar to Firefox—that allows you to browse the web anonymously. Have you ever used Tor Browser?

- Yes
- No

2. How frequently do you use Tor Browser?
(Please select the answer that applies the most.)

- Never
- On average less than once a month
- On average about once a month
- On average about once a week
- On average about once a day
- Tor Browser is my main browser

3. When using Tor Browser, who do you want to protect your browsing activity from?
(Check all that apply.)

- My government
- Other governments
- My Internet service provider (ISP)
- My school
- My employer
- Friends and family
- Advertising companies

- Hackers in open WiFis (for example in coffee shops)
- Other (Please elaborate below.)

4. For quality purposes, please select only “iPhone” and “Android” in the options below.

- PC
- Mac
- iPhone
- Android
- Other (Please elaborate below.)

3 Onion site usage

1. The Tor Browser allows you to browse “onion sites.” Onion sites are web sites that can only be accessed over the Tor network. The domains of onion sites end with .onion instead of .com, .net, etc.; they are of constant length; and they tend to “look random.” For example, The Tor Project’s web site, torproject.org, is also available at expyuzz4wqqyqhjn.onion as an onion site.

2. How frequently do you use Tor Browser to browse onion sites?
(Please select the answer that applies the most.)

- I have never used onion sites
- On average less than once a month
- On average about once a month
- On average about once a week
- On average about once a day

3. How frequently do you use onion sites for purposes other than web browsing? For example for remote login (SSH) or chat (IRC, or XMPP)?

- Never
- On average less than once a month
- On average about once a month
- On average about once a week
- On average about once a day

4. Why do you browse onion sites?
(Check all that apply.)

- Because of the additional anonymity – traffic to onion sites never leaves the Tor network
- Because of the additional security – onion sites provide end-to-end security
- Some sites I like are only available as onion sites and not as normal web sites

- No particular reason; I occasionally just click on links to onion sites
- I read about the “dark web” and wanted to form my own opinion
- Other (Please elaborate below.)

5. How do you discover new onion sites?
(Check all that apply.)

- I browse the list of onion site search engines such as ahmia.fi
- From social networking sites such as Reddit or Twitter
- Recommendations from friends and family
- I randomly encounter them while browsing the web
- I am not interested in learning about new onion sites
- Other (Please elaborate below.)

6. Are you satisfied with the way you discover new onion sites?
(Check all that apply.)

- Yes
- No (Please elaborate below.)

7. Many people memorize popular domains such as youtube.com and wikipedia.com for quick access. How do you deal with the domain of onion sites such as expyuzz4wqqyqhjn.onion?
(Check all that apply.)

- I save a list of onion domains in a file on my computer
- I write onion domains down using pen and paper
- I bookmark onion domains in Tor Browser
- I use a web-based bookmarking service such as Firefox Sync or Google Bookmarks
- I use a search engine each time (for example, to search for “facebook onion site”)
- I go to web pages I trust that have links to onion sites
- I memorize some onion domains
- I don’t have a good solution
- Other (Please elaborate below.)

8. The Tor Project is currently working on the next generation of onion services. The new onion domain format will consist of 52 characters, for example: aluik0wlgmfq3i5ievxdm9ceu27e88g6o7pe0rffdw9jmn-twkdsd.onion Do you expect this to change your browsing habits?

- Yes (Please elaborate below.)
 - No (Please elaborate below.)
9. Do you have a Facebook account?
- Yes
 - No
10. Have you ever logged in to Facebook over its onion site facebookcorewwi.onion?
- Yes, that is the only way I log in to Facebook
 - Yes, occasionally
 - No, never
 - I didn't know about this onion site until now
11. For quality purposes, please select "Yes, more than once" in the options below.
- Yes, once
 - Yes, more than once
 - No
12. How many onion domains do you have fully memorized?
- None
 - One
 - Two
 - Three
 - Four
 - More than four
13. Is facebookcorewwi.onion among the sites that you have memorized?
- Yes
 - No
14. Why do you memorize onion domains? (Check all that apply.)
- It allows me to open the site more quickly
 - I don't want to leave any digital traces of the onion sites I visit
 - That way I can be sure that I end up at the right onion site and not a phishing site
 - After typing a domain many times, I automatically start to memorize it
 - Other (Please elaborate below.)
15. Imagine you had to memorize onion domains. Please rate the difficulty of memorizing the following domains.
- facebookcorewwi.onion

- expyuzz4wqqyqhjn.onion
- torproz4wqqyqhjn.onion
- torprojectqqyhjn.onion

For each answer, we provided the following Likert scale:

- Very easy
 - Somewhat easy
 - Neither easy nor difficult
 - Somewhat difficult
 - Very difficult
16. Please explain the reason for the rating you gave above.
17. If popular web sites such as YouTube, Twitter, or Amazon offered onion sites in parallel to their normal web sites, which one would you prefer?
- Always the normal web site
 - Always the onion site
 - Other (Please elaborate below.)
18. Please explain the reason for the choice you made above.
19. If Tor Browser could automatically redirect you from a web site to its corresponding onion site (for example from facebook.com to facebookcorewwi.onion), would you use this feature?
- No, never
 - Yes, for some sites
 - Yes, always
 - Other (Please elaborate below.)
20. Please explain the reason for the choice you made above.
21. Please rate how important the following criteria are for the usability of onion sites. (Check all that apply.)
- Page load time
 - Quality of content (e.g., up-to-date, interesting sites)
 - Diversity of content (e.g., sites about politics, technology, social media, etc.)
 - Easy-to-remember domain format
 - Having an onion service version of popular services such as Facebook
 - Existence of a search engine (like Google) for onion services

For each answer, we provided the following Likert scale:

- Very unimportant
- Somewhat unimportant
- Neutral
- Somewhat important
- Very important

4 Onion site operation

1. Have you ever set up your own onion site?
 - Yes
 - No, but I have considered doing it
 - No, and I have not considered it
2. Did you experience any issues while setting up your onion site?
 - No
 - Yes (Please elaborate below.)
3. Why did you set up your own onion site? (Check all that apply.)
 - I wanted my site to be anonymous
 - I wanted my site to have end-to-end security
 - I used a tool that automatically creates onion sites (for example OnionShare or Ricochet)
 - To make my site accessible behind a NAT device
 - Out of curiosity
 - Other (Please elaborate below.)
4. Were the onion site(s) you set up intended for the general public, or only for private use? (Check all that apply.)
 - For public use (for example, a public blog)
 - For private use (for example, sharing pictures with a friend)
5. Please rate the level of concern you would have for the following scenarios.
 - Somebody deanonymizing my onion service
 - Somebody taking my onion service offline
 - Somebody setting up a phishing site targeting my onion service

For each answer, we provided the following Likert scale:

- Not at all concerned
- Slightly concerned
- Somewhat concerned
- Moderately concerned
- Extremely concerned

5 Onion site phishing and impersonation

1. Did you ever type an onion domain manually?
 - Yes
 - No
2. Please elaborate on why you typed an onion domain manually?
3. How do you realize that you made a typo when typing an onion URL? (Check all that apply.)
 - When the page won't load
 - When a wrong page shows up
 - I don't know
 - Other (Please elaborate below.)
4. Have you ever thought about whether the onion site you are browsing is the authentic site you are trying to reach?
 - Yes
 - No
5. How do you know an onion site is the legitimate site you are trying to reach, and not an impersonation? (Check all that apply.)
 - I verify (part of) the onion domain in Tor Browser's address bar
 - I use bookmarks when accessing onion sites
 - I go to the corresponding web site and look for the link to its onion site
 - Sometimes I cannot tell the difference between the legitimate and the impersonation site
 - I copy&paste onion domains from a trusted source
 - I check if the onion site's HTTPS certificate is valid (if it has one)
 - I don't check
 - Other (Please elaborate below.)
6. How many characters of a domain do you verify? Recall that an onion domain has 16 characters.
 - 1-3
 - 4-6
 - 7-9
 - 10-12
 - 13-16
7. For quality purposes, please select "Less than once a month" in the options below.

- Less than once a month
 - About once a month
 - About once a week
 - About once a day
8. Have you ever sent Bitcoins to a Bitcoin address that you got from an onion site?
- Yes
 - No
9. Some onion site owners use tools to have a short word at the beginning of their onion domain. This is why Facebook's domain (facebookcorewwi.onion) looks the way it does. We call these customized domains "vanity onion domains."
10. What is your overall opinion on vanity onion domains? (Check all that apply.)
- I find them useful because they are easier to memorize
 - I find them useful because they are easier to recognize
 - I like them because they make an onion site look "unique"
 - I dislike them because onion sites shouldn't contain their name in their domain
 - I don't see a benefit
 - I don't have an opinion
 - Other (Please elaborate below.)

6 Expectations of privacy

1. Let us move away from onion services and turn to expectations of privacy. If you use Tor Browser to open <http://example.com>, who do you believe can see your connection to <http://example.com>? (Check all that apply.)
- Your Internet service provider (ISP)
 - The ISP of example.com
 - Your Tor "exit relay"
 - Your Tor "guard relay"
 - Nobody
 - I don't know
 - Other (Please elaborate below.)
2. Now imagine that you are instead using Tor Browser to open the *onion site* of <http://example.com>. Who do you believe can see your connection to this onion site? (Check all that apply.)

- Your Internet service provider (ISP)
 - The ISP of the onion site
 - Your Tor "exit relay"
 - Your Tor "guard relay"
 - The "guard relay" of the onion site
 - Nobody
 - I don't know
 - Other (Please elaborate below.)
3. How safe do you feel when using Tor Browser compared to another browser?
- Very unsafe
 - Somewhat unsafe
 - Neutral
 - Somewhat safe
 - Very safe
4. Please elaborate on why you feel that way when using Tor Browser.
5. Please tell us about how safe you feel when browsing onion sites as compared to normal web sites?
- Very unsafe
 - Somewhat unsafe
 - Neutral
 - Somewhat safe
 - Very safe
6. Please elaborate on why you feel that way when using onion sites.
7. For quality purposes, please select only "Very unsafe" in the options below.
- Very unsafe
 - Somewhat unsafe
 - Neutral
 - Somewhat safe
 - Very safe
8. Assume you just set up your own onion site. Who do you believe can see that this onion site was set up? (Check all that apply.)
- The onion site's ISP
 - The developers of The Tor Project
 - (Some) Tor relays
 - Nobody
 - I don't know
 - Other (Please elaborate below.)

9. Facebook already runs the onion site facebookcorewwi.onion. How difficult or easy do you believe is it for someone to create domains that begin with the following characters? Note that the X symbols below are just placeholders. What matters is the first characters.

- facebookcoreXXXX.onion
- facebookXXXXXXXX.onion
- faceXXXXXXXXXXXX.onion

For each answer, we provided the following Likert scale:

- Very easy

- Moderately easy
- Neither easy nor difficult
- Moderately difficult
- Very difficult
- I don't know

7 End of survey

1. Finally, is there anything else about the usability of Tor or onion services that you wish to share with us?