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OCTOBER 15, 2019

OVERCOMING INAUTHENTIC CLONES OF PSIPHON

RESEARCH INSIGHTS • PREPARED BY OKTHANKS

CONTENTS

WE SET OUT TO DISCOVER

"HOW TO OVERCOME INAUTHENTIC CLONES"

WE LEARNED

Clones exist for different reasons, and will continue to exist.

Many have good intentions. Many simply see an opportunity to make money. In the worst case, there's malware injected into the repackaged clone.

SOME FORMS CLONES TAKE INCLUDE

A version of an app not yet available in a country. For example, before Spotify was available in India, multiple unofficial apps offered access to the service.

An app that offers the same product but is loaded with adware to generate a profit.

A modded app of an original offering premium services for free.

An app embedded with malware as a scam to get personal information.

People are casual about getting apps. They download them from various sources depending on their situation, where they live, and what they think. Generally, they want what is easy and available, and don't think much about the source or their security.

So what does this mean for Psiphon and the community of open-source apps at large? It will take us all!

No matter what we do, open-source code will still be able to be cloned and repackaged. It's designed to work that way. We may not be able to overcome clones, but there are actionable steps to be taken by each tool team and the community.

Together, we can increase the adoption of original apps and lessen the chance of malware invading open source apps.

RESEARCH METHODOLOGY

In order to understand this phenomenon and its challenges, we looked at the problem of inauthentic clones from various angles. We read case studies, spoke with other tool teams experiencing issues related to clones, hosted a Typeform survey, and held interviews.

We conducted the research from January through August 2019. Exploratory by nature, the intent of this research and its insights is to move open source technologies forward in serving censored communities. It does not intend to provide a full behavioral or socio-economic analysis of the countries highlighted.

In the following section, we outline country-specific contexts that unveil challenges in overcoming clones. Overall we spoke to 15 people in 7 focus countries. We chose these 7 countries because they have a high number of people potentially using clones of Psiphon. Interviews were conducted in which ever means the interviewee felt most comfortable. This included encrypted video zoom calls, WhatsApp chats and phone calls, and email. These contexts help provide an understanding of the behavioral landscape of downloading apps on Android.

15
PEOPLE

7
COUNTRIES

COUNTRY CONTEXT

The following data represents interviews and surveys completed by members of our focus communities.

CHINA

Surveillance and targeted blocking cause a flooded market of 'fake.' People rely heavily on one another to get access to the apps they want.

In China, the government controls the flow of information. From our research, it is clear there are two very different use cases co-existing in China: users inside the Great Firewall (GFW) and users who have crossed beyond the GFW. Restrictions in China have created a non-traditional market for app distribution. Flooding the market with versions of modified or "modded" apps that users download then share in messaging apps or over Bluetooth. For example, sharing APK files over Weibo or WeChat is common. This way of getting and distributing apps is seen as authentic and trusted. Google Play is blocked, so many people rely heavily on one another for access to information.

A combination of lack of access, lack of copyright enforcement, high cost, and language barriers in China, has led to the popularization of cracked or pirated versions of apps. These factors limit users' ability to find the official version of Psiphon or to understand updates, leaving them susceptible to viruses and ads in cracked versions.

People's primary concern remains access. Crossing the GFW can be extremely difficult. VPNs are becoming harder to get. When choosing one, we heard many use something free to cross the GFW, then pay for something faster once they have more options. Psiphon is available in China via Github. Some people use Psiphon to pass the GFW, but abandon it because it is slow and easy to detect.

There is a 'false rule of law' in China, meaning officials choose what to enforce, when, and how. A recent incident arose where a targeted activist paying a monthly subscription to a foreign country for a VPN (Lantern) resulted in their arrest.

HOW PEOPLE GET APPS   Within GFW   Beyond GFW

| Third-party app store | Messaging apps (APK file) | Bluetooth | Direct download link |
| App's website | Google Play | Direct download link | App's website |

IS UPDATING POPULAR?
NOT SURE

POSSIBLE CONTRIBUTORS TO CLONE USE

Chinese app stores are the primary source for apps within the Great Firewall. The market is flooded with modded apps. There's limited access to international apps inside the Great Firewall. People share APKs in messaging apps.

ETHIOPIA

Most people get apps from third-party app stores, then share with one another over Xender or Bluetooth.

Ethiopia has experienced a heightened number of internet shutdowns over the last three years. An increased number of direct blocks to social media apps combined with the social media tax in East Africa has made VPNs famous in Ethiopia.

When you buy a phone in Ethiopia, one of the first questions asked by the store owner is, "What apps do you want?" Thus, people get the majority of their initial apps from the place they buy their phone. After that, they use a third-party app store like Mobogiene to download apps, then share with one another. Mobile data is expensive, so sharing using Bluetooth, or Xender is quite popular and common.

Friends rely on one another to get the apps they want, and many people in the community don't use the 'official distributor' or 'author' when downloading for the first time. If a specific app name is not recommended, the friend will type in 'VPN' and choose the first available option without reading anything. We also heard from people that there is no real way to identify the 'real' app.

Updates can be a hassle because apps aren't localized and people can't read or understand English. People will go well over two years without updating their apps. Low internet connection, lack of skill, and lack of awareness about the consequences cause this behavior.

Telegram is the most popular app in Ethiopia. You need a VPN to use Facebook, and you need a VPN to send and receive photos on WhatsApp.

Finally, there is no international banking system in Ethiopia, making it difficult to buy international apps, which creates an interesting challenge for Ethiopians. Due to this circumstance, many choose to use free versions of apps, especially VPNs.

Psiphon is the number one VPN in the country because it's easy to download and easy to access. When searching for a VPN on the Google Play Store, Psiphon is the first result.

HOW PEOPLE GET APPS

Store phone was purchased at	Bluetooth, SHAREit or Xender	Third-party app store	Google Play

IS UPDATING POPULAR?

👎 NO

ETHIOPIA

POSSIBLE CONTRIBUTORS TO CLONE USE

Mobile phone shops and third-party app stores are a main source for downloading apps. People share APKs over Bluetooth and Xender.

INDIA

In general, people don't think they should pay for apps. They share apps freely among themselves.

The internet is young in India. Three years ago, high-speed internet was unavailable to 80% of India's population. One man, Mukesh Ambani and his company Reliance Jio changed that. His goal was simple, bring the billions of Indians currently offline, online—mainly through their smartphones. Offering 4G high-speed broadband internet free until the end of 2016, then keeping prices low, providing data for as little as $2.25 (149 rupees) a month.

Smartphones are affordable. Even the very poor can afford to buy one, making access attainable regardless of caste or income. Many good changes are coming from this fast-rise in consumption. But, not all change is good.

When it comes to the internet and technology in India, the desire to get something for 'free' drives most decisions. Lack of education or digital literacy around the use of technology and specifically the internet has led to a rise in the spread of spam, phishing, and fake news! Also, the rival competition for consumers has created an interesting phenomenon where Indians will now use the next promotional offer or what's 'free' as a way to bypass paying for things.

Few use anitviruses. Many will to do anything for free data or SIM cards. There doesn't seem to be a lot of 'thinking' or 'educating' oneself before clicking download, buy, or forward. There are about 400 million users of WhatsApp in India, and this contributes to the sharing of APK files and links to download apps in messaging apps (primarily through WhatsApp and using Xender).

Digital illiteracy and language barriers cause many people to download and use modded versions of apps, regardless of whether they will be tracked, or exposed to malware. These factors also contribute to many not updating their apps.

The availability of modded apps offering premiums, early access, and free subscriptions are everywhere! India does not have privacy laws, and it is hard to get people to care about security issues. As for Psiphon in India, some people use it when they want secure communication or to access something they can't, but it's only one of many options in a very flooded market of free.

HOW PEOPLE GET APPS
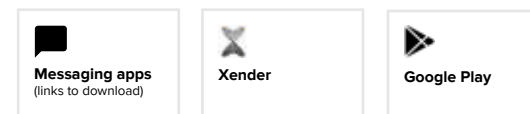
💬 **Messaging apps** (links to download)	✖ **Xender**	▶ **Google Play**

IS UPDATING POPULAR?

👎 **NO**

POSSIBLE CONTRIBUTORS TO CLONE USE

The market is flooded with modded versions of apps which people share through WhatsApp and Xender. People download without 'thinking' too much about it.

INDONESIA

People rely on one another for access to the apps they want.

Indonesia has recently experienced a social media shutdown. The shutdown aims to prevent the circulation of false news. Many are in support of the shutdown, believing it will help prevent the spread of fake news. In addition, people in Indonesia experience slow internet connections, throttling, blocking, or a complete inability to access certain apps.

Due to safety concerns and the need to communicate, many people have found workarounds—using VPNs, phones with dual app systems, and cracked versions of apps.

Slow internet connections make downloading apps take time and battery life, influencing people to share APK files in messaging apps (WhatsApp), with SHAREit, over Bluetooth, or through USB tethering.

When searching for an app or privacy-specific tool, people rely on recommendations from friends on which to use.
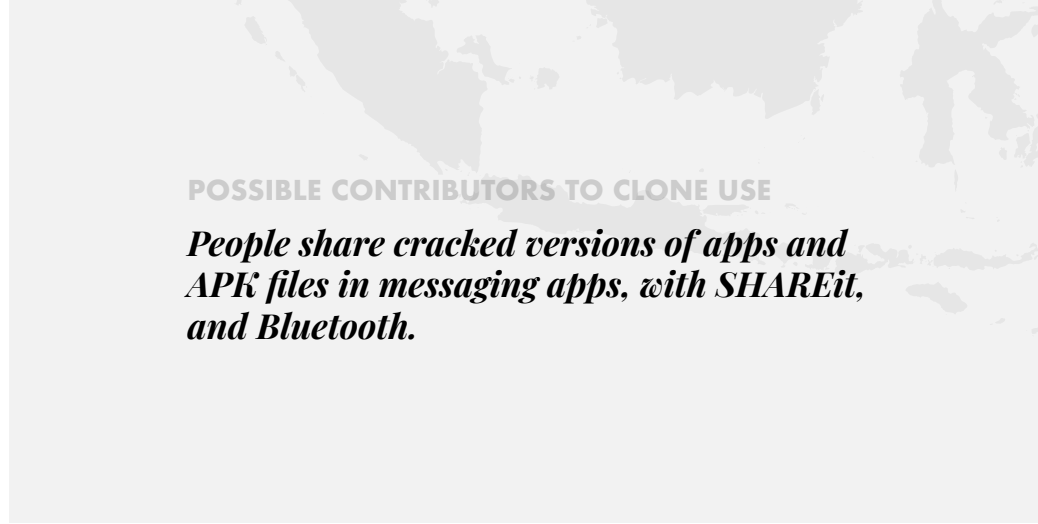
The overall use of VPNs has accelerated due to the social media shutdowns and some referenced using Psiphon. Many can't afford to pay for an app and choose whatever is free and recommended to them.

HOW PEOPLE GET APPS

💬	❊	▶
Messaging apps (APK files)	**SHAREit or Bluetooth**	**Google Play**

IS UPDATING POPULAR?

❓ **NOT SURE**

1 Interviews Conducted
5 Surveys Completed

INDONESIA

POSSIBLE CONTRIBUTORS TO CLONE USE

People share cracked versions of apps and APK files in messaging apps, with SHAREit, and Bluetooth.

IRAN

Google Play is blocked so people's main concern is getting access to the apps they want.

The government controls the internet in Iran. Therefore, with 40 million users (half the population of Iran), Telegram has become the internet for those living in Iran. The government wants a 'clean' internet with no opposition or open access to information that may educate people. Thus, the use of VPNs is essential.

Google Play is blocked in Iran, so people either use a VPN to access Google Play or download apps from third-party app stores. Then, they will share the app APK or link to download the app within Telegram channels or other messaging apps. Many won't even know if it is an unofficial app, and they don't seem to care as long as it works. From one interviewee, we heard, "Accessibility is people's main concern, not whether the government is copying your data, or watching you, or surveilling, or whether something is even safe. Their main concern is access."

Those more concerned with their security, or getting the official version of an app will choose to use a VPN to access Google Play.

As a direct result of internet blocking and censorship, the prevalence of cloned apps has risen in recent years. In 2018, Telegram was blocked. Many saw this as an opportunity to take the open-source code and make their version of Telegram. The Google Play Store then became flooded with Telegram 'knockoffs'. We heard that a few of these variations offer a different user experience that some people prefer over the original app.

A lot of free VPNs don't work in Iran, or their quality is poor. So people choose to pay for VPNs that are fast, reliable and that provide support. Psiphon was mentioned but wasn't used anymore because the performance was too low, and the proxies were easily detectable.

The opportunity for scams and spyware is high in Iran, but even so, keeping apps up to date is a personal choice. Some don't care or aren't educated enough around why to update, while others will delete old files or apps to make storage space and stay up to date.

HOW PEOPLE GET APPS

💬 Messaging apps (links to download)	🧭 Third-party app store	▶ Google Play (using a VPN)
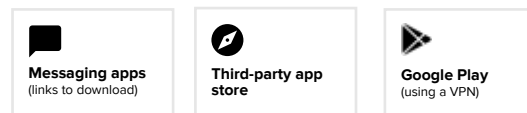
IS UPDATING POPULAR?

👍 TO SOME

3 Interviews Conducted
0 Surveys Completed

IRAN

POSSIBLE CONTRIBUTORS TO CLONE USE

People get apps from third-party app stores and then share the APK files or links to download the app in group messaging apps.

2 Interviews Conducted
3 Surveys Completed

NICARAGUA

The internet is stable and there seems to be no barriers to getting the apps you want because Google Play is available.

Nicaragua is the most impoverished region in Central America. Still, people have smartphones with eco plans offering prepaid internet packages and good internet coverage.

WhatsApp and Facebook are zero-rated, making them extremely popular. People seem to trust all social media apps regardless of any security implications.

The government is corrupt, and digital attacks are happening all the time. For sensitive or high-risk individuals, this means their level of alertness and even fear has risen. Many have fled the country.

From what we heard, many general users get apps and app updates from the Google Play Store. However, those who may need to take precautions or are more aware of technology prefer to get their apps and app updates using F-Droid.

Although few people in the Global South speak English, many trust apps developed in Europe or North America over apps developed in Asia and Russia. Nonetheless, language remains a barrier for many when using these apps.

Nothing is blocked in Nicaragua, so peoples' need for VPNs is low. However, from the human rights communities we spoke with, they encourage others to at least use a free or emergency VPN when sending sensitive information. In many cases, the VPN slows down the connection, forcing some to send information unprotected out of necessity! From what we heard in our research, few people use Psiphon.

HOW PEOPLE GET APPS

Google Play	F-Droid

IS UPDATING POPULAR?

👍 YES

NICARAGUA
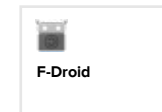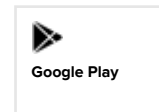
POSSIBLE CONTRIBUTORS TO CLONE USE

Some people download without reading much information.

PHILIPPINES

Google Play isn't blocked, so getting the apps you want is easy.

The Philippines is relatively free from restrictions when it comes to getting access to the apps or websites you want. Many individuals have cheap phones with limited storage, so they tend to be selective about which apps are on their phones and what they will update.

People download apps from the Google Play Store. It is common for people to download an app after reading its ratings.

People love and trust Western apps, and in fact, if something is written in Chinese, they believe it to be a scam.

Data is used in rural communities as wifi is less available, and companies offer cheap data plans ($2/2G a week).

Although the government appears to be less technically savvy than other countries, they do not like opposition and will intimidate outspoken individuals through harassment or trolling online. The government uses bots to block specific sites or users. From the people's perspective, there seems to be targeted attacks toward specific individuals speaking out against the government.

From what we heard, VPNs aren't common as there is not a huge need for them. There was no mention of people using Psiphon.
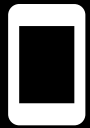
HOW PEOPLE GET APPS

Google Play	Direct download link

IS UPDATING POPULAR?

👍 YES

PHILIPPINES

1 Interview Conducted
6 Surveys Completed

POSSIBLE CONTRIBUTORS TO CLONE USE

Some people use shared devices and download without reading much information.

TRAVELING DEVICE

What happens when you send a traveling device into a country to test for access to authentic versions of apps?

We were able to answer this question for the Philippines after a chance conversation at IFF (Internet Freedom Festival).

OVERVIEW

During IFF, we met a friend who was traveling to the Philippines. They were willing to conduct some in-country research for us, so we sent a factory reset test device with them for some undercover insights.

WE WERE CURIOUS TO LEARN

"DO USERS IN THE PHILIPPINES HAVE ACCESS TO AN AUTHENTIC VERSION OF PSIPHON?"

WE DISCOVERED

Yes, people in the Philippines have access to the authentic version of Psiphon.

A FEW INTERESTING INSIGHTS

1. It's hard to distinguish which is an authentic app because **many options for downloading Psiphon,** including the official apps, **don't look alike**.

2. When searching for Psipon, the **first search result** on almost all search engines **was the Google Play Store.**

3. If you chose a website or third-party app store to download Psiphon from, **the APK file names don't always match the file name** and the websites themselves look sketchy.

It would be very hard as a general user to know if you are getting an authentic version of Psiphon if you don't use Google Play.
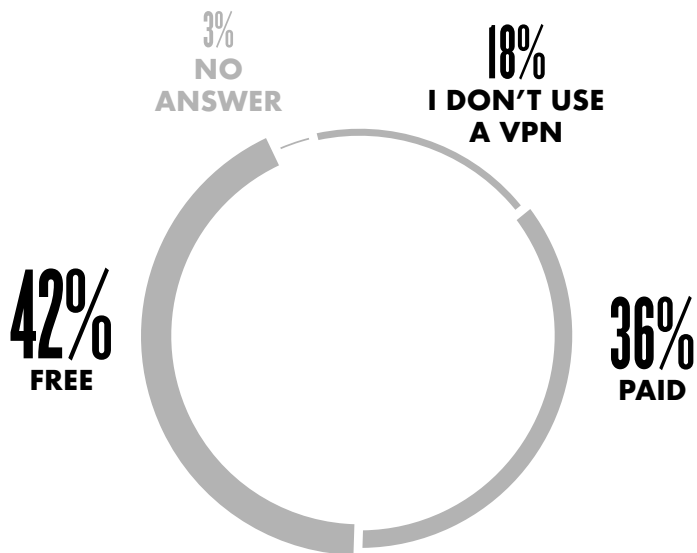
📋

SURVEY INSIGHTS

The following data represents a survey completed by 66 participants in 21 countries.

VPNS PERCEPTION & USE

Do you use a free VPN or a paid VPN?

3%
NO ANSWER

18%
I DON'T USE A VPN

42%
FREE

36%
PAID

WORDS ASSOCIATED WITH FREE VPNS

RELIABLE
SCAM   MONITORED
POOR QUALITY
ACCOUNTABLE   FREE   FAST   HIGH QUALITY
UNPREDICTABLE
UNRELIABLE   TRUSTWORTHY
ADEQUATE   PRETTY GOOD

WORDS ASSOCIATED WITH PAID VPNS

ACCOUNTABLE   FAST
NOT PRIVATE
HIGH QUALITY
POSSIBLY MORE RELIABLE
UNPREDICTABLE   POOR QUALITY   STILL UNKNOWN
GLOBALLY DISTRIBUTED   PROBABLY MONITORED   UNRELIABLE
TRUSTWORTHY   RELIABLE

TRUSTING APPS

Which steps do you take to ensure that an app is credible?

👤 **45** Read web reviews

👤 **41** Look at the developer name

👤 **41** Look at the overall app rating

👤 **35** Read app description

👤 **32** Check number of app ratings

👤 **31** Research developer or company

👤 **28** Look at screenshots

👤 **26** Look at logo

👤 **22** Check how responsive developer is to reviews

If you're searching for an app in the app store and there are multiple results, how do you know which one to trust?

👤 **14** Developer name

👤 **11** Comments/Reviews

👤 **10** Rating

👤 **9** Number of downloads

👤 **7** Further research

How do you know you can trust a company or developer website?

👤 **25** URL starts with HTTPS://

👤 **21** URL looks correct

👤 **12** Website looks professional

👤 **10** Logo looks like I expect

China
• URL starts with HTTPS://
• URL looks correct
• Logo looks like I expect

Ethiopia
• Don't know
• URL starts with HTTPS://
• URL looks correct

India
• URL starts with HTTPS://
• URL looks correct
• Website looks professional
• It's the official site
• Logo looks like I expect
• Website looks professional

Indonesia
• URL looks correct
• URL starts with HTTPS://
• Website looks professional
• Don't know
• Logo looks like I expect

Nicaragua
• URL starts with HTTPS://
• URL looks correct

Philippines
• URL starts with HTTPS://
• URL looks correct
• Website looks professional

How do you know you can trust apps from direct download links (APKs)?

👤 **19** From the official source code website

👤 **15** From someone I trust

👤 **5** From an article

China
• Trust the source I got it from
• Open source

Ethiopia
• Don't know

India
• From the official GitHub
• Look at certificate for site

Indonesia
• Trust the source I got it from
• I just tried it
• HTTPS:// official links
• User reviews

Nicaragua
• User reviews

Philippines
• Trust the source I got it from
• My work developed the app

How do you know you can trust apps sent or received from using a file transfer app?

👤 **7** From someone I trust

👤 **7** Don't know

👤 **6** Look at the app an the other phone first

👤 **5** Person sharing it hasn't had any problems

China
- Received the link from someone I trust
- The person sharing it hasn't had any problems
- Don't know
- Find the developers name
- Logo looks as I expect

Ethiopia
- Don't know
- Look at the app on the other phone first
- Person sharing it hasn't had any problems

Indonesia
- Find the developers name
- Look at the app on the other phone first
- Don't know
- Logo looks as I expect
- Received the link from someone I trust
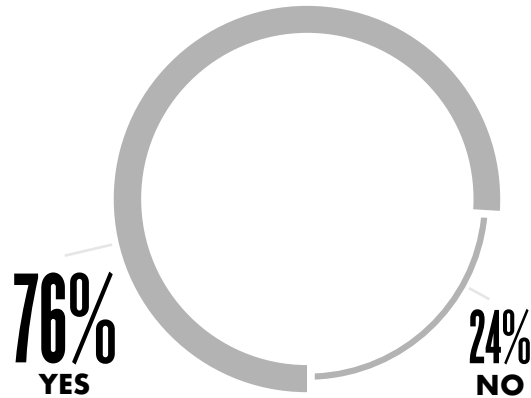- The person sharing it hasn't had any problems

Nicaragua
- Look at the app on the other phone first
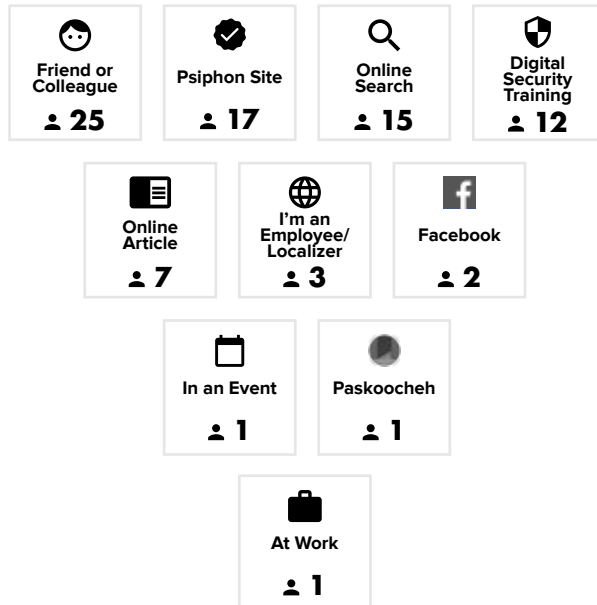- Received the link from someone I trust

Philippines
- Don't know

AWARENESS

Have you heard of or used Psiphon?

76%
YES

24%
NO

HOW THEY HEARD OF IT

Friend or Colleague	Psiphon Site	Online Search	Digital Security Training
👤 25	👤 17	👤 15	👤 12

Online Article	I'm an Employee/ Localizer	Facebook
👤 7	👤 3	👤 2

In an Event	Paskoocheh
👤 1	👤 1

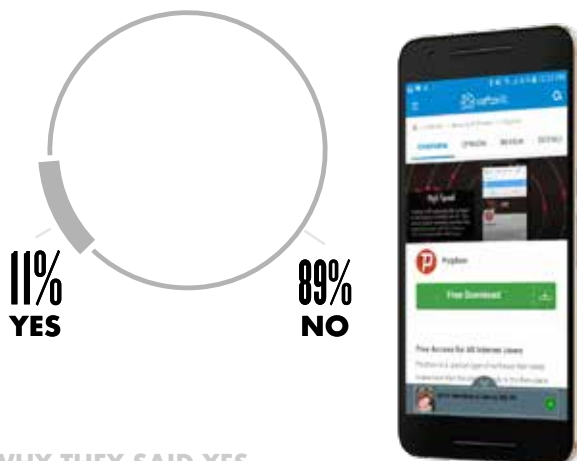| At Work |
|---|
| 👤 1 |

Are you aware that there are versions of Psiphon that are not created or supported by the authentic Psiphon team?

50%
YES

5%
NO ANSWER

45%
NO
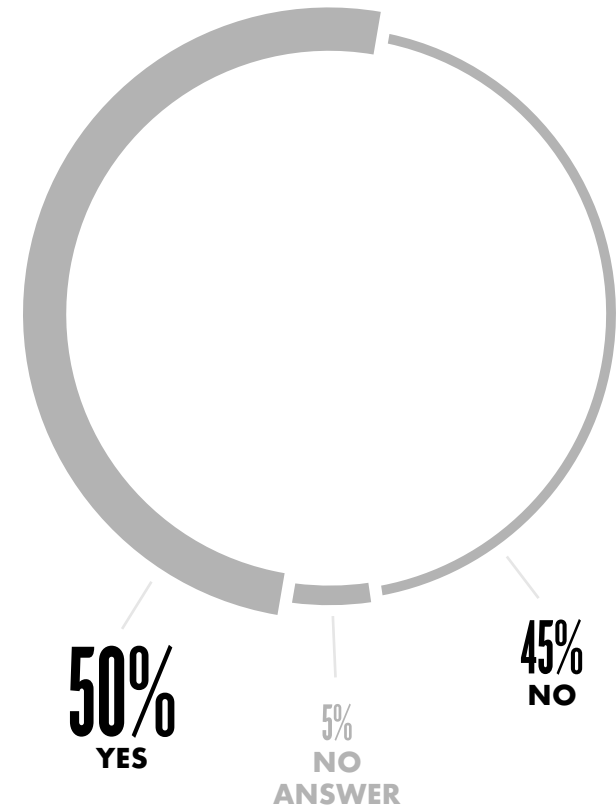
Would you download Psiphon from EN.SOFTONIC.COM ?

11%
YES

89%
NO

WHY THEY SAID YES

• I don't know.

• I trust the site.

• Looks credible.

WHY THEY SAID NO

• I prefer to download applications from the Play Store or the official sites, not third-party sites.

• I only trust Paskoocheh.

• I had a bad experience with this site once, don't trust them.

• I know there is an official site, no need to risk it.

• I'd rather if I got it from a more official source, either Play Store or Psiphon itself.

• Not official, plus Psiphon is not working in CIS where governments block websites via DPI.

• Not clear to me from the information in the screenshot what their privacy policy is.

• They add advertising to their software.

• This is a credible site.

• Softonic does not sound like a legitimate distributor, though I would investigate before I would use it.

• Doesn't really communicate what it's for.

• That is a commercial site, so I prefer the right Psiphon website.

Would you download Psiphon from PSIPHON.CA ?

Official Psiphon website

59%
YES

41%
NO

WHY THEY SAID YES

• It's verified by DigiCert.

• Because I know that's the official site.

• As far as I know, it is a Canadian project and the website looks professional.

• It is from the legit Psiphon site. I would still prefer to get it through the Play Store or F-Droid to ensure I get updates.

• It looks authentic.

• I know the website already. But if I hadn't, I would have performed a quick search on Psiphon to see where reputable sources point to as it's home websites. I also check Wikipedia's article.

• There is no extra ads on the page and it seems more credible and less like I'm being tricked into downloading.

• Everything I want to know is visible on their website.

WHY THEY SAID NO

• Maybe it's malware. I prefer official websites.

• Websites also can be mirrored.

• I still don't understand the importance of downloading Psiphon and my phone might have less memory to store this app.

• Not on my white list.

• Looks insecure.

• I don't see even a slight attempt of showing ratings or an official sanction.

• It looks like a spam/fake.

• I would prefer the App Store.

Would you download Psiphon from PSIPHON.EN.UPTODOWN.COM ?

6%
YES

94%
NO
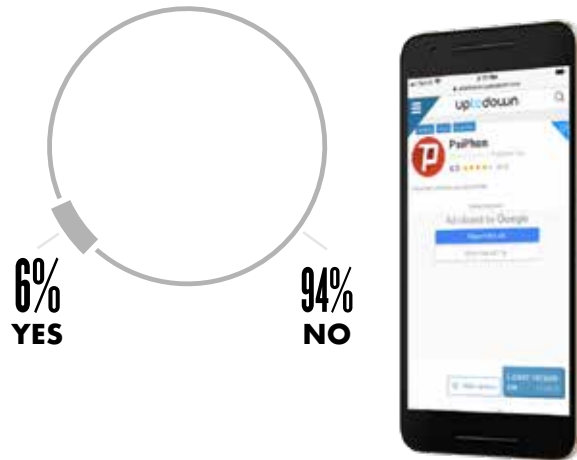
WHY THEY SAID YES

• Good.

• I've used the site a few times.

• It's the reliable site for Psiphon.

WHY THEY SAID NO

• Not the original site.

• It looks illegitimate.

• I will try to look for the official website whenever possible.

• I try not to side load any app.

• I don't know the site.

• Advertising.

• Suspicious.

• I would prefer the App Store.

Would you download Psiphon from PSIPHON.WIN?

11%
YES

**89%**
NO
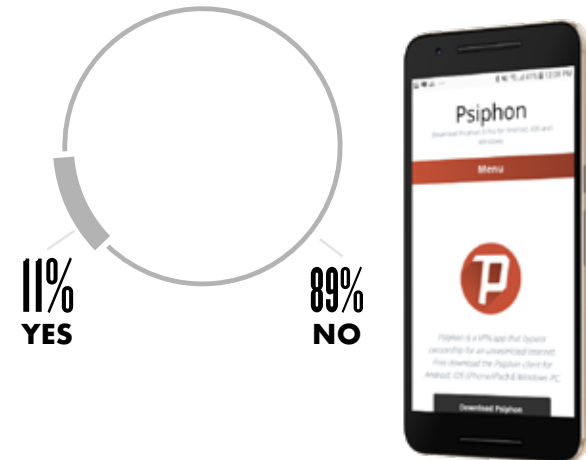
WHY THEY SAID YES

• Looks legit.

• It's the reliable site for Psiphon for Windows.

• It only talks about Psiphon.

• Seems official.

• Trusted.

• Yes.

WHY THEY SAID NO

• Domain is not legit.

• Looks strange, with ads from Google.

• It asks for notifications to be turned on and I can see no reason to.

• The website doesn't use the regular color background.

• It's not official.

• .win is a new TLD, anyone could have registered it.

• If I noticed the weird domain name, definitely not. It might escape my attention though.

• Doesn't look trusty.

• I want to know that they will not be sharing my information with anyone without my consent.

• Because I now know the app is available in App Store.

• It's a false site.

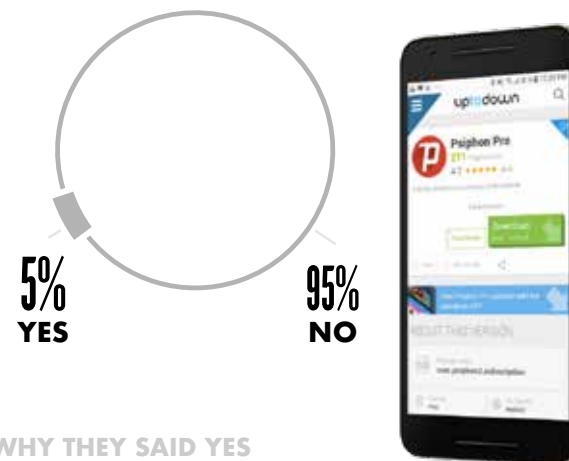# Would you download Psiphon from PS3.AMAZONAWS.COM?

✅ *Official Psiphon website*

11%
YES

89%
NO
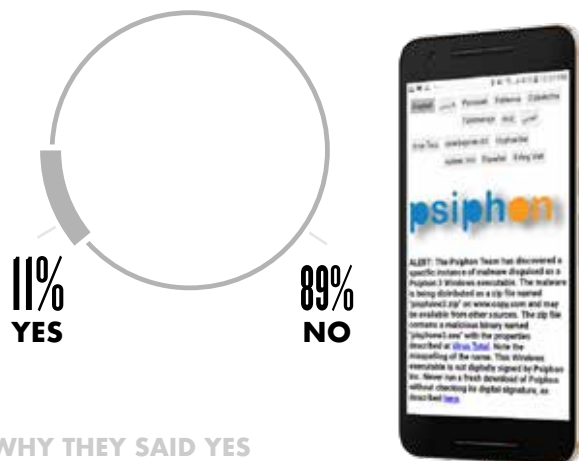
WHY THEY SAID YES

• Amazon hosts legit files.

• It has translation, not easy to get for crackers.

• AWS is trusted.

WHY THEY SAID NO

• It looks illegitimate, looks like a scam.

• That is a generic AWS S3 URL, origin can be anyone.

• The description is sh*t.

• It looks extremely dodgy.

• I would consider downloading if there were assurances that my data will not be shared with any third parties.

• This looks nothing like the Psiphon branding I recognize.

• NO WAY.

• Blocked.

• Unable to verify the identity of the site owner.

• Looks like old school web design.

• I have trust issues.

• I know S3. Unless the official website points to it, it is a problematic link.

• I think amazon works based on payment.

• Who owns the site is unclear.

• The logo is different.

• It is not the official site and seems phishing.

• It is an unofficial download link for me.

Would you download Psiphon from PSIPHON.PRO.EN.UPTODOWN.COM?

5%
YES

95%
NO

WHY THEY SAID YES

• I've used the site a few times.

WHY THEY SAID NO

• It is full of ads and I don't trust this kind of website.

• Fake.

• It looks illegitimate.

• Not an official source. Sites that spam with ads lose their esteem.

WOULD YOU DOWNLOAD?

Would you download Psiphon from PSIPHON.ONL?

5% YES
**15% NO ANSWER**
80% NO

WHY THEY SAID YES

- Feels formal.
- From friend.
- I don't want to use it.

WHY THEY SAID NO

- Looks strange.
- I don't trust it. It offers "free pro features."
- The website doesn't look original.
- There is a pro version!
- Tell me up front that you will not be selling my data or collecting any more data than will be absolutely necessary to provide a VPN service.
- New TLD, I do not trust it.
- I still don't understand the importance of downloading Psiphon and my phone might have less memory to store this app.
- Looks distorted.
- "Free Pro Version."

Would you download Psiphon from PSIPHONDOWNLOAD.COM?

5% YES
16% NO ANSWER
79% NO
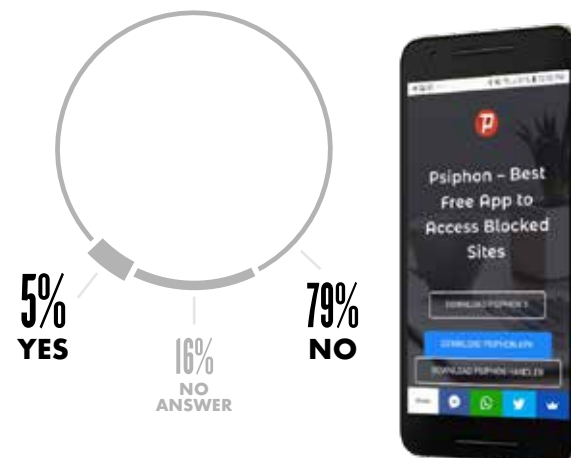
WHY THEY SAID YES

- From a friend.
- Looks legit.
- Verified by Cloudflare.

WHY THEY SAID NO

- Not trusty.
- Looks like a commercial website.
- Fake.
- From experience, domain names that combine "download" with the app name and make a ".com" out of it are not trustworthy.
- Weird URL, but I could potentially not notice.
- Another phishing site.
- Data privacy is a critical enough feature of a VPN service and it should be assured in bright shiny sparkly text. Privacy is just as important as affordability when choosing a VPN.
- URL is suspicious.

CONCLUSION

Context, combined with ease, makes overcoming clones a challenge.

There is no single perfect solution. Rather, multiple approaches that will help mitigate the issue. We need user friendly, no-brainer solutions to ensure original apps are easy find and get.

These insights are the basis for making recommendations for the Psiphon team.

We humbly thank all those who have contributed to these research insights. We appreciate the Open Technology Fund Usability Lab for the opportunity to dive deep into an issue plaguing the community. We thank the Psiphon team for desiring more insights into clones and what can be done to overcome them.

Finally, we appreciate all the people willing to take time out of their days to complete our survey or speak with us directly.

We look forward to more efforts at overcoming clones and encourage people to share tactics and solutions they've found to be helpful.

okthanks