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Conference Paper

Dark Web and its impact

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Abstract

The Internet is an indispensable part of communication, jobs, entertainment and receiving the necessary Almost anything that is real, nowadays, goes through the process of digitalization, all the information is being processed in the form of computer information to produce thousands of information, where the aim is to upload the human brain to the Web. However, the Internet has its dark part, the part we have heard little or nothing about.
The drug market, the black market for arms, prostitution and pornography, millions of secret and declassified documents all exist in a site called the Dark Web.
In the Dark Web identity is disguised and the sites being visited are encrypted, besides that nobody knows who you are, there is no limit to search, people can use the available tools in order to reinvent their knowledge
In order to formulate comprehensive strategies and policies for Internet governance, we have estimated that it is important to consider knowledge of its deepest deep web achievements and most importantly it is the dark web. In this article we have tried to provide a broader understanding of the dark web and its use, analyzing various study breaks and taking some op- portions regarding its use. We also estimated that using dark web could significantly affect in psychological state of the user.

Key word: Dark Web, Deep Web, Dark network,TOR (The Onion Router)

1. Introduction

The World Wide Web offers billions of pages, links, videos, photos and even archives with documents, books and other information [3].

The dark web or otherwise known as the dark network is the name of a private network operating within the internet. As soon as the user connects to the web, he or she can gain access to a variety of different sites by utilizing the search tools.

Otherwise the traditional internet where we all visit different social networks as: Facebook, Twiter, Instagram, Google etc. to get the information needed online, the dark web is completely different [5]. When a user searches for any information on the web, the search goes through all the users. This makes it even harder for the authorities of the internet to determine where the search comes from. In fact, this represents a high degree of anonymity to exploit illegal content such as: pornography with minors, the sale of narcotics or anything else used in the black market [11].

There is also Deep Web but different from the Dark Web that is restricted and can not be visited by anyone, Deep web contains content that can not be found with search engines but can only be accessed if the user has a direct link [2]. This can best be described in the following figure:

Fig. 1: Surfing the dark web

Dark Web presents a wide range of sites and forums for unethical and unlawful behavior, from ilegal drug markets, counterfeit goods, contract killings, forums for the exchange of material for sexual abuse, etc. All of these activities are legitimate police targets, and all have become easier to perform and more difficult to prevent and prosecute [4].

2. The use of dark web

Using the Dark Web itself contains an analogy, ex. if we are driving a car to visit a friend, then the car we drive has number plates and on the other hand the friend's house has street number and postal code. This information is public and used to identify persons if necessary. However, if the car we are driving does not have a number of plates, and the address and postal code are encrypted that only by means of the key can be identified, imagine if all the machines and addresses should be configured in this way then no one will know who it is and where it is going [4]. In fact this is Dark Web, Identity is disguised and sites that are visited are encrypted.

Most Web pages use a tool called Tor to encrypt yourself. The Tor network is the most well-known place in the Dark Web content [8]. This anonymous network is comprised of thousands of online servers hosted by volunteers and online privacy advocates. Its name is a shortcut to The Onion Router reflecting thanks to technique which creates a path through certain Tor servers. During this process, the data packets are wrapped in successive layers at each node until they arrive at the destination. The result is that none of the nodes know the full path between the copier and a website. This makes it almost impossible for anyone to trace the search path [9].

3. Case studies around the dark web

To illustrate ethical issues and to provide an important discussion of current practices, we will present a brief summary of some of the operations performed on the Dark Web, which will serve to investigate ethical and legal issues.

3.1. Sexual Abuse of Children in the Dark Web-In September 2017, the Norwegian newspaper presented an exclusive report on an Australian police secret police operation against a child sexual abuse forum at Dark Web. This ethical issue included a specialized police team who searched for this 11-month forum on the Dark Web. While the police were carefully following this forum, thousands of images and videos of child abuse were reported, including direct abuses. In the end, this operation resulted in two important arenas and the closure of this forum [1].

3.2. Trade with illegal goods - In the summer of 2017, Europol has published a detailed announcement on how it had supported two major FBI-led anti-drug operations to close down a subterranean criminal infrastructure for the trade of over 350,000 illegal goods including drugs, weapons and malware viruses. With the help of an insurance company, Europol conditioned the Dutch authorities to rally an investigation into these markets called Hansa. The Dutch authorities secretly controlled these markets by monitoring the activities of users without their knowledge. They also plugged in a second page called AlfaBay with the same motif during the same period. This enabled them to delete all the new subscribers who had been relocated by AlfaBay to search for a new platform. According to police, the mark is an eighth increase in the number of Hansa platform members after the AlfaBay closure [7].

Results

The world is filled with mysteries, and it makes the curious man retreat after the mysteries. Dark web contains infinite information and that's why people become part of it with the idea that they can find the right information whether legal or not legal by hiding their identity. Dark web can be used for many purposes, but the main reason for its use is anonymity. The anonymity offered by the dark web is undoubtedly a great advantage for people as they can share information by being sure about their actions.

To see how much we use these networks in our country we have conducted a survey involving a group of 100 people and you've conducted some type of anonymous testing as this was the right way to get the right results. In the following chart we present the data about the use of dark Web acquired by the respondents

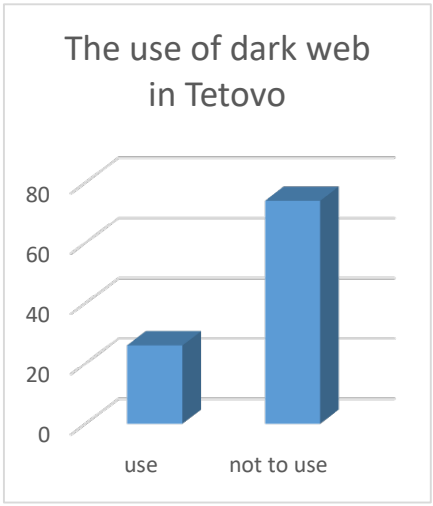

Fig. 2: Respondents' results around dark web usage

According to some of the opinions about using dark web, people who have not used but just heard that dark web is a bad web, that this network contains many illegal things, and that there are many hackers who can they make us harm, however, people who have used the dark web and who are part of it,they think that this network is a good place to find information, looking for and sharing information. Besides, nobody knows who you are, there is no limit to the search, people should use the tools available in order to increase their knowledge.

Dark web can be used for many purposes, but the main reason for its use is anonymity. The anonymity offered by the dark web is undoubtedly a great advantage for people as they can share information by being sure about their actions.

4. Conclusion

Dark web has traditionally become very popular. The attention of news and documentaries has made ordinary citizens interested in this network, greatly increasing their use.

Now the Dark Web uses a lot of large discussion forums, including underground seafood businesses, piracy communities, and many other illegal activities [10]. As a result of this we can draw some conclusions:

- First, there is concern over privacy. Users should know that they should use a secure nickname when registering in an underground network. This means creating a brand new and casual name that has nothing to do with their real identity or their postal accounts.
- Secondly, computer security. The dark web is one of the main place where computer hackers, security experts, and other interested people collaborate to stop digital attacks and crimes. For this reason, it is not necessary to download incredible files from incredible sources as they can be the path to virus infection.
- Dark web may in some cases harm the user's psychological state. Indeed some of these communities may have very illicit material such as pornography and drugs. Reaching up to these materials can have some negative elements on some people.
- Finally, we can say that illegal activities in these underground forums have no legislation that can protect users from these crimes committed in the Dark Web.

5. References

[1]. Balduzzi M., Ciancaglini - Cybercrime in the Deep Web / Black Hat EU, Amsterdam 2015
[2]. D. Sui, J. Caverlee, D. Rudesill - The deep web and the darknet: a look inside the internet'smassive black box / Stip 03 October 2015
[3]. J. Cole, USAF - Dark Web 101
[4]. Kristin Finklea - Dark Web / Specialist in Domestic Security / March 10, 2017
[5]. M. Chertoff, T. Simon - The Impact of the Dark Web on Internet Governance and Cyber Security / paper series: NO. 6 — February 2015
[6]. M. Overton – The Dark Web – Dark Web, Dark Net, what you need to Know / IBM 2015 Corporation
[7]. Policing the Dark Web: Ethical and Legal Issues / Deliverable 4.3 / University of Warwick and TNO
[8]. S. Pederson - Understanding the Deep Web in 10 Minutes / March 2013
[9]. V. Ciancaglini, M. Balduzzi, R. McArdle, and M. Rösler - Below the Surface: Exploring the Deep Web
[10]. White Paper: The Dark Web – Ethical IT for social change
[11]. https://www.tripwire.com/state-of-security/security-awareness/curiosity-dark-web-dangerous-effects/