

# Ethical issues of Peer-to-Peer file sharing of BitTorrent in Vietnam

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**Abstract**—BitTorrent is a content distribution protocol that enable efficiency of Peer-to-Peer (P2P) file sharing which is the process of transferring and sharing digital files between computers . It is legal to use peer-to-peer file sharing clients such as BitTorrent or Torrent. However, sharing and downloading copyright material is illegal. Bittorrent have been known as an efficient way to share and get copyrighted material. In some countries, there are methods applied in order to deal with this problem such as the cooperation between the internet provider and the copyright owners . However, in Vietnam this phenomenon seems to be a usual activity to everyone. Hence, we would like to discuss about the ethics of using this type of protocol in this country.

**Keywords**—BitTorrent, Peer-to-Peer, file sharing, ethics, Vietnam

## I. INTRODUCTION

Internet has been considered as one of the vital factors for the development of society due to its functions to every field of life. Starting from 1965, the first wide-area computer network was built by Lawrence G. Roberts MIT Researcher, based on the connection between the TX-2 computer in Mass and the Q-32 in California with a low speed dial-up telephone line [1]. This was the evidence of the ability of communicating between the time-shared computers, running programs or accessing data between them. After that, as the technology continued to improve, this kind of information infrastructure was evolved in different aspects such as speed, adaptation or security. As a result of creating and developing of organizational structures, the influences of Internet reach not only the communication between computers but entire society in many fields using online tools for other purposes as well [1].

As the society evolves, the needs of transferring large data between people through the use of Internet does also. Due to some disadvantages of Client-Server networking, the new kind of mechanism for accessing and retrieving files from one computer to the others named peer-to-peer file sharing was invented and used widely [2]. And the first name of software envisioning this process is Napster created in 1991, followed by the development of Kazaa and BitTorrent. This also leads to many of issues in society and the major point the authors would like to mention in this paper is the copyright materials transferred through this method. According to our research from the relative works which are discussed in the

third section, Vietnam is one of the countries which are commonplace for this phenomenon because of peoples lack of knowledge and awareness in this country. Therefore, we the authors choose Vietnam as a turning point to debate this problem using theories and principles of ethics.

In section II, we would like to discuss about the general information and knowledge about peer-to-peer file sharing and its related concepts. There are also information about the works relating to our ethical issue. In section III, we present about the methods we based on, which are the main theories in ethic, and discuss the problems based on these theories. For a more throughout explanation regarding our works, please refer to this section. In section IV, we conclude our works based on the discussion in section III.

## II. BACKGROUND AND RELATED WORK

### A. Background

Peer-to-Peer (P2P) network consist of 2 or more PCs, which are called "peers". Peers share their resource such as bandwidth, processing power, disk space with the network, without need a centralized server. [3]

Peer-to-Peer file sharing is the distribution and sharing file using Peer-to-peer network. To download, you will need a software rather than a traditional web browser [4]. In peer-to-peer file sharing, you download from peers who has the file, or part of its, rather from centralized server. Then when you has the file, you upload it to other peers who need the file. [5]

In 1999, peer-to-peer file sharing is popular with Napster. Napster use central servers that link user who has the files with who has the file. Then two users would transfer the file privately, but only music file. [6]. Later, Napster was shutdown due to copyright infringement in July 2001 [7].

After Napster, the second generation peer-to-peer file sharing, like Kazaa, that do not use central server. [8]

BitTorrent is a Peer-to-Peer sharing protocol which was release on July 2, 2001 [9]. Similar to Napster, Bittorrent use central server called tracker[5]. To upload, uploader will create a .torrent file which contain information about the file, tracker will store these infomation. Downloader will download .torrent file, and use these information find peers with the helps of tracker which can be hosted by anyone [5]. Althoght

BitTorrent need tracker as central server, multiple tracker can exist, as any .torrent can be register with multiple trackers, make BitTorrent less central vulnerability [5]. Bittorrent also has DHT, Local Peer Discovery, Peer exchange reduce the dependency on central server. Hence, it is difficult to take down file while it is already on the network.

### B. Related work

There are many research article and law about BitTorrent and pirate, copyright infringement. Bright, Stephen explain why BitTorrent is not effect by international law [10]. G Douglas's Copyright and Peer-To-Peer Music File Sharing: The Napster Case and the Argument Against Legislative Reform study Napster case, which is shut down due to copyright infringement [7]. Siganos, Georgos and Pujol, Josep M and Rodriguez, Pablo prove that BitTorrent can be minitored [11].

## III. METHODOLOGY

## IV. CONCLUSION

## ACKNOWLEDGMENT

The authors would like to thank...

## REFERENCES

- [1] B. M. Leiner, V. G. Cerf, D. D. Clark, R. E. Kahn, L. Kleinrock, D. C. Lynch, J. Postel, L. G. Roberts, and S. Wolff, "A brief history of the internet," *SIGCOMM Comput. Commun. Rev.*, vol. 39, no. 5, pp. 22–31, Oct. 2009. [Online]. Available: <http://doi.acm.org/10.1145/1629607.1629613>
- [2] M. Parameswaran, A. Susarla, and A. B. Whinston, "P2p networking: An information-sharing alternative," *Computer*, vol. 34, no. 7, pp. 31–38, 2001.
- [3] R. Schollmeier, "A definition of peer-to-peer networking for the classification of peer-to-peer architectures and applications," in *Peer-to-Peer Computing, 2001. Proceedings. First International Conference on*, 2001, pp. 101–102.
- [4] "How bit torrent works," last access August 12, 2015. [Online]. Available: <http://computer.howstuffworks.com/bittorrent1.htm>
- [5] "How p2p file sharing," last access August 12, 2015. [Online]. Available: <http://www.makeuseof.com/tag/p2p-peer-peer-file-sharing-works/>
- [6] J. Tyson, "How the old napster worked," *Web Page: HowStuffWorks (R)*, Archived at <http://web.archive.org>, 2005.
- [7] G. Douglas, "Copyright and peer-to-peer music file sharing: The napster case and the argument against legislative reform," *Murdoch University Electronic Journal of Law*, vol. 11, no. 1, 2004.
- [8] S. Watson, "How kazaa works," *HowStuffWorks*, <http://computer.howstuffworks.com/kazaa3.htm>, 2008.
- [9] B. Cohen, "Bittorrenta new p2p app," *Yahoo eGroups*, 2001.
- [10] S. Bright, "Current state of bittorrent in international law: Why copyright law is ineffective and what needs to change, the," *New Eng. J. Int'l & Comp. L.*, vol. 17, p. 265, 2011.
- [11] G. Siganos, J. M. Pujol, and P. Rodriguez, "Monitoring the bittorrent monitors: A birds eye view," in *Passive and Active Network Measurement*. Springer, 2009, pp. 175–184.