

Technology Companies vs Digital Hackers: An Arms Race

Dr. Hyein Kim (Director of International Cultural Exchange Center, KCTI, South Korea)

From a few years ago, people have been thinking that illegal downloading activities are reduced, which appears to be thanks to the development of technologies to monitor and track illegal downloading and improved people's awareness of the copyright. For example, Time Magazine reported "Revenue Up, Piracy Down: Has the music industry finally turned a corner?" in 2013 citing and NPD study that said,

"Piracy, for instance, continued to decline in 2012, according to a survey by the NPD Group. About one in ten American internet users downloaded music through a P2P network in 2012 – think BitTorrent or the now-defunct Limewire – compared to one in five when the phenomenon peaked in 2005."

However, illegal file sharing worldwide increased by 80% from 2008 to 2014. Such growth is expected to slow down from 2015, but not expected to turn downward. Of course, such trend varies depending on the national and region. Illegal file sharing is expected to rather grow in the United States by 51% until the year of 2019, while European countries expect a slight decrease (Robert Steele, 2015)¹. However, most of countries are only forecasting a slight decrease in illegal file sharing and it is difficult to expect that such illegal file sharing will be rooted out. Especially, as the downloading practices have transitioned from P2P file sharing (peer-to-peer file sharing technologies and activities) to file downloading via BitTorrent and non-alliance web hard drives, a single user can receive a file from multiple users and at the same time send a file to multiple users, which makes a file to be constantly uploaded and downloaded over the Internet with a single seed file. According to <2014 Annual Copyright Protection Report> published in Korea, the volume of illegal copies distributed via the torrent is approximately 847 million cases, accounting for about 36% of the total illegal copies.

In order to eradicate such illegal copies, Korea has launched a system called, Illegal Content Obstruction Program (ICOP)², which performs monitoring on 7 sectors including music, games and movies, and blocks the access to a website that is detected to be distributing any illegal copy of digital content. United States has launched a 6 strikes 'Copyright Alert System'. In this system, a notification is sent to a user when he or she is caught downloading content illegally for the first time. If the illegal

¹ Robert Steele is the president and COO at DMN partner Rightscorp.

² Auto search and feature recognition technology-based crackdown support system that automatically monitors illegal copies distributed on the Internet and requests the blocking of reproduction and transmission of illegal copies detected. Korea in 2008 launched a system that automatically monitor the illegal copy of soundtrack and developed it as a comprehensive monitoring system for various copyrighted content including movies, broadcast content, publishing content and games (materials from the technical research team at Korea Federation of Copyright Organizations, 2013).

downloading activities recur by the same user, the system slows down the Internet speed of the user and finally blocks the Internet access for the user if illegal downloading continues. In addition to the above mentioned systems, Japan in 2012 introduced a controversial criminal punishment system against illegal downloading of music and videos. They also announced in July 2014 that they will crack down on illegal downloading of the pirated editions of comics and animation films over the Internet worldwide.

Nevertheless, why does illegal downloading continue existing? Both the research results performed in Singapore³ and Korea⁴ have shown that the younger the user is the more experience in illegal downloading and streaming the user has. Even the research performed in Korea show rather shocking survey results that 62.3% of the respondents answered they are not willing to pay the fair price for the digital content. Among the reasons, 'Other people also don't pay the price when consuming digital content' is ranked 1st by a hair's breadth, followed by 'Too expensive to use digital content legally'. Particularly, more respondents aged 19 to 29 picked the answer that they download digital content illegally due to the price of the content. Even in the survey performed in Singapore, respondents answered that they continue downloading contents illegally as it costs money to download it legally. Such survey results suggest that illegal downloaders are short-sighted only by the price-driven benefits and are not aware of how much social costs and damages they may incur.

In 2010 alone, approximately USD 59 billion worth of software was subject to digital piracy. In the US alone, 20% of all software installations in 2010 were pirated copies that cost the software industry \$9.5 billion dollars (Danaher & Waldfogel, 2012). Costs of developing surveillance and monitoring programs to prevent illegal downloading and losses incurred from lowering the price to encourage legal use of digital content are all social costs originating from digital piracy. Users are not fully aware that such social costs should have been invested into the research and development activities to create better software and content. The regulatory policy of each country on digital piracy so far has been focusing on blocking sites on which digital piracy is carried out and impose penalty on the illegal users. However, a wide range of data and statistics have demonstrated that such way is not that effective. Of course digital piracy may become extinct if the space to provide and receive digital content for free no longer exists. However, to do so, there is no one in the world who creates a seed file and downloads the seed file. To eradicate digital piracy, it would be rather more practical and effective to let people, including illegal uploaders and downloaders, understand that their digital piracy activities does not make them save money, but let them lose social benefits and incur social costs.

³ <Research into the online behavior and attitudes of Singaporeans in relation to movie, TV and music piracy 2014>, Sycamore

⁴ <2013 Research on Use of Copyrighted Content and Survey on Awareness of Copyright>, Ministry of Culture, Sports and Tourism

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