


Chapter 10

Online Social Networks Misuse, Cyber Crimes, and Counter Mechanisms

Sanjeev Rao

 <https://orcid.org/0000-0001-7338-1930>

Thapar Institute of Engineering and Technology, India

Anil Kumar Verma

Thapar Institute of Engineering and Technology, India

Tarunpreet Bhatia

Thapar Institute of Engineering and Technology, India

ABSTRACT

Online social networks (OSNs) are nowadays an indispensable tool for communication on account of their rise, simplicity, and efficacy. Worldwide users use OSN as a tool for social interactions, news propagation, gaming, political propaganda, and advertisement in building brand awareness, etc. At the same time, many OSN users unintentionally expose their personal information that is used by the malicious users and third-party apps to perform various kind for cyber-crimes like social engineering attacks, cyber espionage, extortion-malware, drug-trafficking, misinformation, cyberbullying, hijacking clicks, identity theft, phishing, mistrusts, fake profiles, and spreading malicious content. This chapter presents an overview of various cyber-crimes associated with OSN environment to gain insight into ongoing cyber-attacks. Also, counter mechanisms in the form of tools, techniques, and frameworks are suggested.

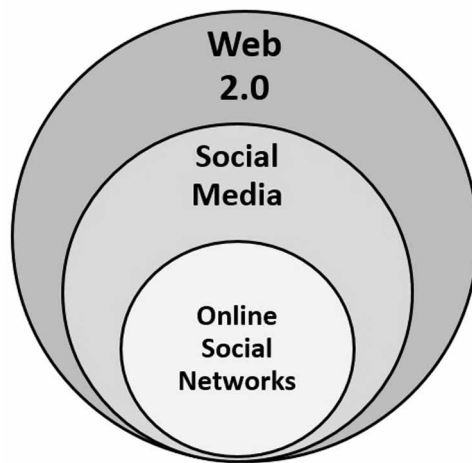
INTRODUCTION

The outburst of the World Wide Web is the most productive and expedient ways to find and distribute information. The Web 2.0 has emerged from “read-only web” to “read-write web” constitutes tools such as podcasting, blogging, tagging, RSS feed, social bookmarking, social networking platforms, web content

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voting etc. With the start of Web 2.0, the media becomes very dynamic and used as blogs, messenger services, websites, social networking sites etc. to provide vast applications such as communication, news, entertainment, businesses, gaming, marketing and advertisement, live-streaming, job search, dating, education, healthcare etc. Among many social media tools, the popularity and usage of OSNs have increased at an incredible rate and becomes an essential tool for every OSN user worldwide. The main focus of this chapter is towards OSNs and its associated cyber-crimes. (Anderson, 2016). In figure 1, the relationship between web 2.0, social media and online social networks is mentioned.

Figure 1. Relationship between web 2.0, social media and OSNs



In OSNs, the developers and designers have given much focus on the design and features. However, less emphasis is provided on the privacy and security of OSN users. So this has become a wide area of research and has fascinated the interest of many research scholars. In this chapter, authors aim to provide valuable understandings regarding the social media ecosystem, various cyber-crimes and vulnerabilities associated with OSNs, and security mechanisms to prevent such attacks.

ONLINE SOCIAL MEDIA ECOSYSTEM

Online social media ecosystem is used as a vehicle for communication and is based on 3C's, i.e. creation, curation, and consumption. The content on the social media ecosystem can be self-created/owned in the form of posts, page, and blogs etc., paid media in the form of advertisement and earned media in the form of spam and viral messages etc. In figure 2, the Social media ecosystem (Sharma et al., 2020) is mentioned. Social media ecosystem consists of numerous entities represented as different forms of media, social media content used (text, audio, video, real-time and on-demand etc.), various types of users, usage, computing platform, personalization and management and so forth.

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