


Chapter 32

Protection to Personal Data Using Decentralizing Privacy of Blockchain.

Vilas Baburao Khedekar

 <https://orcid.org/0000-0003-4229-1937>

VIT University, India

Shruti Sangmesh Hiremath

Jayawantrao Sawant College of Engineering, India

Prashant Madhav Sonawane

Jayawantrao Sawant College of Engineering, India

Dharmendra Singh Rajput

VIT University, India

ABSTRACT

In today's world, we deal with various online services, where each person deals with various technologies. These technologies are made for people to make our access to the new world easily. There is a tremendous use of online applications, websites which require large storage. Large data is handled by the online systems. The collection of data in the whole world is about 20% in the last few years. The data is captured from the user, controlled by the systems, and operations are performed on data. It requires more system accuracy and protection to personal data. But the person does not know about the data, where and how it is used where it is stored or whether the data is handled by some organisations for their own use or data is been hacked by another person. This chapter explores protection of data using the decentralized privacy of blockchain.

DOI: 10.4018/978-1-6684-7132-6.ch032

INTRODUCTION

In today's world we deal with various online services, where each person deals with various technologies. These technologies are made for people to make our access to new world easily. There is tremendous use of online applications, websites which require large storage. Large data is handled by the online systems. The collection of data in whole world is about 20% in last few years ("Big data, for better or worse: 90% of world's data generated over last two years," 2013). The data is captured from user, controlled by the systems and operations are performed on data. It requires more system accuracy and protection to personal data.

Ex. Email, WhatsApp, Instagram, Facebook, Bank transactions, Real-time estate etc. But the person is unknown about the data, where and how it is used where it is stored or whether the data is handled by some organisations for their own use or data is been hacked by other person (Zyskind & Pentland, 2015). Since the protection towards the personal data is been decreasing day by day. Example- Facebook one of the huge online social network collected 300 petabytes of user data during its inception (PB, n.d.). These leads to illegally accessing personal data for their own purpose without having rights on it.

WHAT IS THE PERSONAL DATA?

Every person deals with various applications nowadays, where each website or application needs authentication of user. He has must create a user id and set password to access the application. He has a unique identity .He keeps his access details up to him, where the data contains login details which he wants to keep private .Personal data is defined as the individual information which is used to identifying a person identity from others . These details may be used to trace the person .The name, identity number, account details, birth date, mothers name, biometrics and various information regarding website access, banking details and medical details is related to an individual. One of these details are enough to identify an individual. These details are not shared with others .These data is kept hidden from public. Only that person can handle or deal with his data .The data is kept private .The data is kept secured .

The Privacy Problem

In various fields, the services deploy applications for users to install. All these applications collect high resolution of personal data. The user is unknown about this process. The person is providing all the data to the applications and allow the applications to deal with his personal data on the system. The application may misuse the authentication details of the user. This results in tracing the user details whenever required . Even the hackers can easily trap the system and get access of the personal details of the system .In agriculture environment the third parties involve between farmers and customers to deal the transaction .This leads to get advantage over the other .The broker earns more profit than farmer.

What Is Blockchain?

Blockchain is a decentralised, distributed, public ledger. Blockchain is defined as collection of blocks. Block is the smallest unit of blockchain which records recent transactions. Every transactions are grouped and stored on a public ledger (*b-money*, 1998). In blockchain, the first block is called as genesis block.

16 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:
www.igi-global.com/chapter/protection-to-personal-data-using-decentralizing-privacy-of-blockchain/310469

Related Content

Proxy-3S: A New Security Policies-Based Proxy for Efficient Distributed Virtual Machines Management in Mobile

Boubakeur Annane and Alti Adel (2022). *International Journal of Information Security and Privacy* (pp. 1-38).

www.irma-international.org/article/proxy-3s/285022

Authenticity in Online Knowledge Sharing: Experiences from Networks of Competence Meetings

Inge Hermanrud (2014). *Analyzing Security, Trust, and Crime in the Digital World* (pp. 61-76).

www.irma-international.org/chapter/authenticity-in-online-knowledge-sharing/103811

Safety and Security in SCADA Systems Must be Improved through Resilience Based Risk Management

Stig O. Johnsen (2013). *Securing Critical Infrastructures and Critical Control Systems: Approaches for Threat Protection* (pp. 286-300).

www.irma-international.org/chapter/safety-security-scada-systems-must/73129

Engineering Multi-Agent Systems

Tagelsir Mohamed Gasmelseid (2007). *Encyclopedia of Information Ethics and Security* (pp. 187-193).

www.irma-international.org/chapter/engineering-multi-agent-systems/13471

Secure Data Dissemination

Elisa Berino, Barbara Carminati and Elena Ferrari (2004). *Information Security Policies and Actions in Modern Integrated Systems* (pp. 198-229).

www.irma-international.org/chapter/secure-data-dissemination/23373