

Chapter 55

Threats and Security Issues in Smart City Devices

Jayapandian N.

Christ University, India

ABSTRACT

The main objective of this chapter is to discuss various security and privacy issues in smart cities. The development of smart cities involves both the private and public sectors. The theoretical background is also discussed in future growth of smart city devices. Thus, the literature survey part discusses different smart devices and their working principle is elaborated. Cyber security and internet security play a major role in smart cities. The primary solution of smart city security issues is to find some encryption methods. The symmetric and asymmetric encryption algorithm is analyzed and given some comparative statement. The final section discusses some possible ways to solve smart city security issues. This chapter showcases the security issues and solutions for smart city devices.

INTRODUCTION

The Smart City is the concept of integrate latest technologies and to provide a modern lifestyle for all the citizens. The latest survey shows that, in the year 2030 more than 60% of people moving and living in the urban city. The day to day citizen's lifestyle is growing and moving to the modern technology. The Information and Communication Technology (ICT) plays a vibrant role in smart city concept. The idea of smart city is a combination of traditional and modern technology. It is used to establish ICT in an urban environment. The urban cities are expecting an innovative technology at lesser cost. The final goal of smart city is to provide quality of life in entire citizens. The end of the 20th century smart city concept is evolving. The short duration more innovative technologies developed in smart city. The modern world, people are expecting more sophisticated lifestyle using modern ICT tools. The smart city is to provide social and innovative technology in the existing model. The government service sectors, health and police department is also using these ICT futures (Hernández-Muñoz et al., 2011). The unified information and communication technology is used to optimize and control the urban life. This

DOI: 10.4018/978-1-7998-7705-9.ch055

ICT is also modeling and measuring the sustainable smart city development. The primary objective of this chapter is to discuss about security and privacy issues in smart city and secondary objective is to discuss possible solution to handle this security issues.

The terrorist attack is a major problem in developed countries. Smart city concept is to prevent this type of terrorist attacks. This technology is used to identify the terrorist attackers. The concept of cyber security is to prevent these smart technology devices and provide higher security. In recent days, most of the countries are providing a unique identity number for every citizen. The people are using that unique number or biometric system and access this smart city device. The major problem is once a hacker hacked any one device, they can easy to get user's personal information. The Information Communication Technology is pillar of the smart city. The physical infrastructure and internet connectivity is a major component of smart devices. The entire smart device is connected via internet and sharing information from one smart device to other smart devices. The data transfer speed is also another problem in smart device connectivity. The security concern minimal data handling is not a big task, but they handle higher volumes of data at online cloud storage is really a biggest task. This chapter is discussed on basic structure of smart city. History and development of Information and Communication Technology tools is also discussed. Technology and construction industry is jointly establishing this smart city. The modern world more number of engineering graduates completing the engineering course. The employability is a major task for producing high number of graduates. This Internet of Things (IoT) technology produces billion and millions of jobs in forthcoming years. The financial growth and economic development of smart city is an important role. The concept of CCTV is old, but smart CCTV is a new one. This part is to elaborate basic technology of smart CCTV technology. The GPS based smart device is hot topic of current technology. The GPS device is used to monitor the vehicle moments and speed.

The smart city is focused on public utility and governance establishment. The modern world industrial development is the most important one; this smart city concept is not a new one. The development of modern industrial products comes to ordinary civilians' usage. The first commercial internet service provider is introduced in the year of 1990s. The intelligent decision mechanism is used for inventing the smart city. The performance of public utility is increased due to this smart city innovation. Smart city is also used to reduce the cost of public infrastructure maintenance. The usage of mobile phone is very high in recent days. Smart mobile phone business is also involved in smart city. The open source android software is used to access and control the smart devices. The major problem with this technology is high-speed wireless internet connection is needed. There is much research is going on public WIFI technology. The reason is public WIFI is required higher bandwidth and higher transmission power. The recent research and development term finally give some solution and provide some new technology named as LTE (Long-Term Evolution). This technology is used to provide high-speed wireless communication for smart mobile (Walravens & Ballon, 2013). Figure 1 is to elaborate evaluation of information technology field.

Smart city system is a bridge of the consumer and service provider. That means the consumer get full freedom to give feedback of any public utility. The implementation of this smart city is to provide better QoS (Quality of Service). Advantage of this smart city is to encourage citizens to participate in social activity. The smart city device is a dynamic system because each innovation is a unique concept. The smart city is a combination of science, engineering, innovation and technology. The primary role in this smart device is whenever data needed, they can access it. The information is available at anywhere and anytime. This technology is based on both hardware and software components. The Internet of Things (IoT) is a significant concept of smart city. The modern house is fully automated with the use of IoT

20 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/threats-and-security-issues-in-smart-city-devices/270646

Related Content

Teaching Machines to Find Names

Raymond Chiong (2009). *Encyclopedia of Artificial Intelligence* (pp. 1562-1567).

www.irma-international.org/chapter/teaching-machines-find-names/10446

Machine Learning Techniques for Internet of Things

P. Priakanthand S. Gopikrishnan (2021). *Research Anthology on Artificial Intelligence Applications in Security* (pp. 1490-1506).

www.irma-international.org/chapter/machine-learning-techniques-for-internet-of-things/270658

A Selective Overview of Microswitch-Based Programs for Promoting Adaptive Behaviors of Children with Developmental Disabilities

Fabrizio Stasolla, Adele Boccasini, Viviana Perilli, Alessandro O. Caffò, Rita Damianiand Vincenza Albano (2014). *International Journal of Ambient Computing and Intelligence* (pp. 56-74).

www.irma-international.org/article/a-selective-overview-of-microswitch-based-programs-for-promoting-adaptive-behaviors-of-children-with-developmental-disabilities/147383

Optimization Techniques in Cooperative and Distributed MAC Protocols: A Survey

Radha Subramanyam, S. Rekha, P. Nagabushanamand Sai Krishna Kondoju (2024). *International Journal of Intelligent Information Technologies* (pp. 1-23).

www.irma-international.org/article/optimization-techniques-in-cooperative-and-distributed-mac-protocols/335523

Blockchain-Based E-Healthcare Monitoring System Using Internet of Healthcare Things (IoHT): Blockchain in Healthcare

Ashwani Kant Kant Shukla, Raj Shree, Ravi Prakash Pandey, Vivek Shuklaand Shashank Upadhyay (2023). *Role of 6G Wireless Networks in AI and Blockchain-Based Applications* (pp. 26-56).

www.irma-international.org/chapter/blockchain-based-e-healthcare-monitoring-system-using-internet-of-healthcare-things-ioht/320325