Significant Opportunities and Prospects of Distributed and Pervasive System Security for E-commerce Applications (SOPDPSS)

The increasing trend of companies towards e-business and e-business related applications has escalated the need for pervasive system security. Network and computer systems are increasingly being interconnected to ensure pervasive system security, with pre-emptive behaviors that can detect anomalies, attacks, misuse, or faults. At the same time, they occur rather than afterward. As markets become more volatile and global, companies turn to the Internet as their primary avenue for growth and success. In this global e-commerce environment, there is a greater need for pervasive system security as companies solicit electronic business with other businesses and consumers. With escalating Internet security breaches, e-commerce providers must prove to customers that their systems are secure.

The impact of e-commerce on commercial activity and consumer behavior is very high, but security is a primary concern for online transactions. Since mobile devices are becoming the direct way to access various information and services, online transactions are performed more and more from mobile devices. When adopting new infrastructures in emerging countries, significant constraints are imperative for pervasive system security to avoid substantial issues and attacks that lead to severe economic losses.

E-commerce is a powerful paradigm that leverages the Internet to offer new business opportunities, processes, and services. It is not merely selling goods and services online but also involves conducting business over digital networks. To enable e-commerce, fundamental technologies needed to build distributed electronic marketplaces are electronic data interchange (EDI), electronic funds transfer (EFT), electronic communication, and smart cards. However, security issues have increasingly become a significant concern for consumers and businesses. The Future of Work is here to stay. More and more digital natives are entering the workforce and have different expectations, attitudes, skills, and expectations than their baby boomer counterparts. We need to focus on usability, adaptability, and scalability if we wish to secure a digital world. The emerging electronic commerce paradigm has created many new challenges for information systems security. These issues require collective knowledge and understanding of distributed, networked, and mobile environments to secure systems against attacks from sophisticated corporate hackers. This special issue encompasses the many diverse security aspects in distributed and pervasive systems, network and wireless security, applied cryptography, steganography, privacy, identity management, access control, and audit.

The potential list of topics includes but are not limited to:

1. Design, implementation, and evaluation of a range of distributed and pervasive system security systems
2. Minimum administrative trust enforcement model for distributed applications
3. Research and development of quantum-safe algorithm to develop a new decentralized identity and access management platform for E-commerce applications
4. Developing a Distributed and Pervasive System Security model to run the algorithm using tamper-proof hardware
5. Innovations in Authentication, critical public infrastructure, security protocols, and Web services security
6. Method for secure e-commerce transactions in pervasive computing environments
7. Methodologies for threat modeling and identifying appropriate integrated security systems for e-commerce applications
8. Resilient auto-configuration mechanisms for distributed and pervasive system security
9. Modeling of energy-efficient distributed and pervasive systems
10. Efficient resource allocation strategies for distributed and pervasive systems to secure e-commerce applications
11. Advances in device type identification connected to e-commerce websites

Tentative timeline of this proposed special issue:

- Date of Submission Deadline –**22.10.2023**
- Date First Review Round Completed –**06.01.2024**
- Date Revised Manuscripts Due –**13.03.2024**
- Date of Final Notification –**15.05.2024**

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