

Foreword and Editorial

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We are very happy to publish this issue of an International Journal of Software Engineering for Smart Device by Global Vision School Publication.

This issue contains 3 articles. Achieving such a high quality of papers would have been impossible without the huge work that was undertaken by the Editorial Board members and External Reviewers. We take this opportunity to thank them for their great support and cooperation.

The paper entitled “Secure Differential Privacy Scheme Using a Tag in Health Environment”, due to the development of the medical field, the secondary utilization of medical information is increasing. Because a large amount of medical information contains a large amount of personal information, you must always protect it by adding noise in a variety of ways, such as protecting your differential privacy. Accordingly, we have previously proposed a new way to improve the security of existing differential privacy. However, too much noisy information is difficult to use and is less efficient in adding noise. So we propose a new secure differential privacy scheme that adds a 1-bit field at the end of the column of a given dataset in the database to further improve efficiency while maintaining the characteristics of preventing collusion.

In the paper “Re-identification Using Differential Privacy Scheme and Mapping Table”, the way in which information is handled in this age of processing countless information is very important. Medical information is usually processed and managed electronically, in which case the patient or medical staff’s personal information may be violated. Therefore, medical information needs to be used carefully because it includes personal privacy. Accordingly, in 2017, the International Organization for Standardization (ISO) published ISO TS 25237 Health Information – Pseudonymization. In this paper, we will learn about re-identification processing based on ISO 25237, and propose a new method of differential privacy that applied the ISO 25237 international standard to our previously proposed differential privacy.

In the research “Efficient Identifier Management Using the Blockchain”, due to changes in the network environment, NDN networks are becoming the next generation of network architectures. As the public Internet is becoming increasingly congested, it is an architecture that we all have to strive for. By marking data, NDN retrieves and recalls data from any location. This means the distribution of data. A new technique, the Blockchain, is able to ensure the integrity and reliability of transaction records by jointly owning and validating previously centralized data within the network. Managing the data discretely reduces the cost of interim fees and deployment, ensures data integrity and provides high security. This paper discusses the techniques used to efficiently manage identifiers in an NDN environment. These identifier division management techniques enable the safe storage and management of sensitive identifiers.

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