Abstract

In recent years, wireless body area sensor network is one of the important aspects for the development of the healthcare applications. But, it has several issues based on the security and authentication during the transmission of the data. Because of the influence of the hackers, more importance is been given to security aspect in Wireless Body Area Sensor Networks communication. Cryptographic techniques are observed to provide significant results in protecting data from hackers and attackers. Some of the existing cryptographic algorithms such as selective encryption provide good results. The present research work mainly deals with securing the ECG data in Wireless Body Area Sensor Network (WBASN) before transmission. The existing algorithm is mainly based on the RSA algorithm which is used for data security during the transmission but it has some problems in real time applications and it is more exposure to vulnerable attacks. Therefore, in this paper, improved selective algorithm based on the modified quasigroup encryption is used along with the modified SPHIT compression algorithm. Modified quasi group encryption which uses genetic algorithm for optimization is used in this approach for improving the Quasigroup performance. The optimization based approach provides the optimized Quasigroup for encryption which gives better security for the ECG data. The results obtained are compared with other existing algorithm which is evaluated using the quality measurement parameters.
A Secure Crypto based ECG Data Communication using Modified SPHIT and Modified Quasigroup Encryption

References

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Index Terms

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