SECURE DATA COMMUNICATION OVER NETWORK BASED ON DNA CRYPTOGRAPHY

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ABSTRACT

Data communication and security are the significant issues of today's world. Data are needed to be shared or transfer from one network to another. While sharing data or information different sorts of attacks may arise on that data. In order to make secure data transmission different cryptographic algorithms have been developing day by day, researchers are working on the evolvement of new cryptographic algorithms. Data security is the most significant concerned in the area of data communication or data sharing. Cryptography can be defined as the process of making secure data for transmitting over the public network by transforming the plain message that is understandable by everyone into a format that is difficult to make out by anyone else apart from the sender and receiver. One of the efficient directions of achieving security data communication is DNA based Cryptography. The proposed encoding and decoding process is based on the use of the DNA sequencing string of the DNA strands. The encoded text that is cipher text produced by the encoding algorithm is looks similar with the bio-logical structure of the DNA strands sequence. In order to make the coded text more complex to the intruders some extra bits are padded along with the coded cipher text. The algorithm proposed here by using the property of DNA sequencing.

KEYWORDS: Encoding, Decoding, Plain Message, DNA Sequencing, Encoded Text, Main Server, Intermediate Cipher Text, Hash Mapping