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| Title | An Effective Modification of Play Fair Cipher with Performance Analysis using 6X6 Matrix | | |
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| Abstract |  |
| Researchers have shown great interest in expanding and modifying the Playfair Cipher algorithm to overcome its pre-existing demerits. An explosion of research in cryptography for Playfair cipher occurred the last decade. While the inability of encrypting numeric characters exists in traditional Playfair Cipher, the algorithm is  incompatible with many present technologies. Even for the encryption of a proper information in the form of human expressions, encryption of spaces between the words is needed as post processing of the decrypted message remains confusing  without the feature. This paper proposes a modification of Playfair Cipher which is able to encrypt alphanumeric characters as well as spaces. The paper reaches the goal by modifying the dimension of the key matrix from 5 by 5 to 6 by 6 and introducing a method to replace spaces with configured digraphs from the generated key matrix. It is believed that introducing the mentioned features can  prevent frequency attacks in Playfair Cipher. In this era of Internet of Things, the small devices need algorithms with lower memory consumption. Updated Playfair cipher can be implemented to aid to that. | |