



Encryption and Decryption of Messages in a Selected African Language Using Advanced Encryption Standard (AES) Algorithm

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ABSTRACT The rate of information transferred over the public network has greatly increased which has led to the challenges of data security. Information security is the process of protecting information, its availability and integrity. The objectives of this work is to design a model using mathematical approach to data encryption using Advanced Encryption Standard (AES) algorithm as well as a hybrid algorithm that employs methods of non-linear algebraic equations that will enable the intended recipient of specific message to decrypt the message in Hausa language. The system was developed using PHP as the front-end (Programming Language) and Visual Basic as the back-end (Database) running under WAMP (Window, Apache, PHP and MYSQL) Platform. When information is supply as an input, using a secret key by the user, the encrypted text is displayed on the screen for the user to see and likewise, when decrypting the already encrypted message, the secret key used for the encryption must be supplied to produce back the original message. In conclusion, the aim of the paper was to develop Encryption and decryption of messages in Hausa Language using Advanced Encryption Standard (AES) Algorithm in order to achieve maximum security level when text, file, messages and vital documents are sent across the globe.