

# Abstract

With recent technical advancement in wireless communication, network security have been of great concern. To address this concern, a secured system is to be developed to provide data security over wireless transmission.

The proposed project aims at developing Wireless Body Area Network (WBAN) using cryptographic AES algorithm which monitors patient biomedical parameters based on sensors, Arduino and ZigBee.

WBAN provides real-time measurements of patients' health data supported biomedical sensors. the knowledge gathered within the common habitat of the patient, offers progressively valuable data, taking into consideration an increasingly precise and a few of the time much quicker conclusion. AES algorithm is implemented for secure communication over wireless network by encryption and decryption of physiological parameters. ZigBee module provides communication wirelessly between client and application providers i.e., hospital and physician by configuring the devices. Implementation of algorithm using Arduino has been communicated by ZigBee network to provide security to the encrypted data (ciphertext) on medium cost devices. This ensures security of data for medical rehabilitation and monitoring of patients.