

*ANDROID-BASED PATIENT MEDICAL RECORD DATA SECURITY APPLICATION
USING AES-256 AND RSA*

RUDHI WAHYUDI

*Informatics Study Program, Faculty of Science & Technology
University of Technology Yogyakarta
Jl. Ringroad Utara Jombor Sleman Yogyakarta
E-mail : wahyudirudhi@gmail.com*

ABSTRACT

Electronic Medical Records (RME) are an important part of the modern healthcare system, as they store patients' personal information, such as demographics, medical history, and laboratory test results. Confidentiality and security of RME data is an important thing that must be done by the hospital. This aims to protect data from access by irresponsible people. Researchers use Advanced Encryption Standard (AES) and Rivest-Shamir-Adleman (RSA) to secure RME data. AES algorithm to encrypt patient electronic medical record data before storing it in the database. The RSA algorithm is used to secure the AES encryption key using the public key, while the private key is used to decrypt the AES encryption key. The approach used to secure RME data from unauthorized access. The results of implementing the system using an Android-based hybrid cryptography method, in the form of a comparison of encryption and decryption times based on the size of the plaintext sample file with ciphertext, and the RME data security Android application. The Android application also allows medical personnel to access electronic medical record data safely and efficiently from electronic devices.

Keywords: Data Security, Electronic Medical Records, Cryptography, AES, RSA, Android