Abstract

In an era of rapid digitalization, document authenticity has become a critical concern, particularly as fraud and tampering become increasingly sophisticated. Traditional methods of verifying document validity are often time-consuming and vulnerable to forgery, highlighting the need for secure, automated solutions. This project addresses the challenge of ensuring document authenticity by implementing a digital signature-based authentication system. The proposed solution utilizes cryptographic techniques to create and verify digital signatures, ensuring both the integrity and provenance of digital documents. By signing documents with private keys and verifying them with corresponding public keys, this system guarantees that the documents remain unaltered and traceable to their origin. Additionally, the project will explore watermark detection and other image-processing methods to verify physical document authenticity. Expected outcomes include a robust framework for verifying digital and physical documents, minimizing risks of forgery and enhancing trust in document exchanges across sectors such as finance, legal, and education. This project aims to offer an accessible, reliable solution to a growing problem in digital security.

