Secure Share: A Web-Based Steganography Platform for Secure Communication

Neethu K J

Department of Computer Applications

Don Bosco College, Kozhikode, India

Abstract: *Secure Share is a web-based security platform designed to protect confidential communication through digital steganography and encrypted file sharing. The system enables users to securely hide secret text messages inside image files using the Least Significant Bit (LSB) encoding technique, ensuring that the hidden data remains visually undetectable. A PIN-based protection mechanism is integrated to restrict unauthorized message retrieval, providing an additional security layer during decoding.*

The platform also supports secure user authentication, personal dashboards, file upload management, QR-based sharing, and automated email delivery of encoded images. A unique QR code is generated for each encoded image to simplify secure distribution without exposing the file location. Only authorized users with the correct image and PIN can extract the hidden message.

Secure Share is implemented using the Django web framework and Pillow for image processing, ensuring privacy, usability, and accessibility in real-world communication systems..

Keywords: Steganography, LSB Encoding, Secure Communication, Django, Image Processing, Data Security, QR Code