CAPSTONE PROJECT

PROJECT TITLE

Presented By:Aastha Rajoriya
Student Name : Aastha Rajoriya
College Name & Department : Oriental Institute of Sciennce &Technology, Bhopal

edunet foundation

OUTLINE

- Problem Statement
- Technology used
- Wow factor
- End users
- Result
- Conclusion
- Git-hub Link
- Future scope

PROBLEM STATEMENT

This project uses steganography to hide data within images, ensuring undetectable and secure communication.

TECHNOLOGY USED

- Java Programming Language
- Java Libraries:
  - javax.imageio for image processing.
  - java.security for encryption (e.g., AES).
- **Steganography Logic:** Manipulate the LSBs of pixel values to hide data.

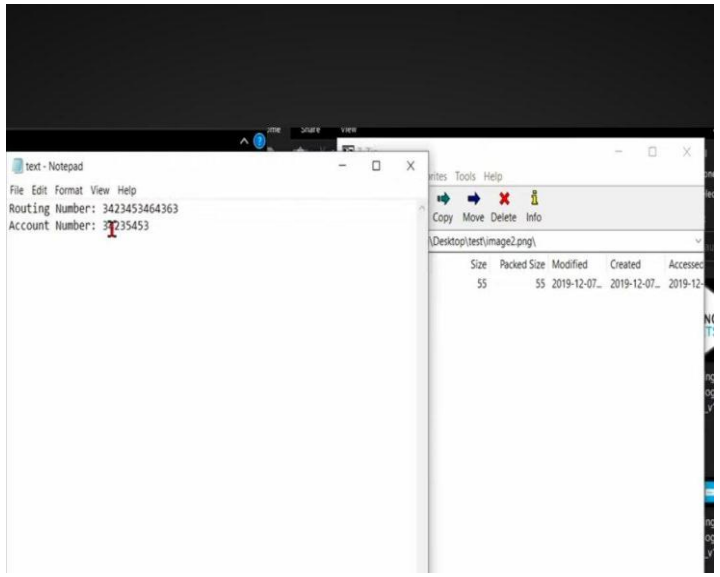
WOW FACTORS

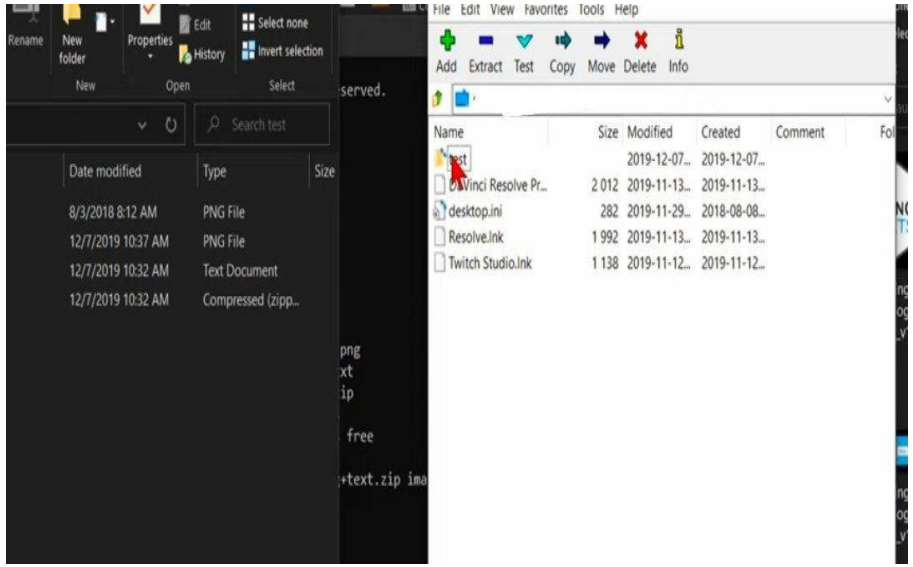
- **Invisible Data Hiding:** Data is embedded in the image without visible changes.
- **Encryption Layer:** Data is encrypted before embedding for added security.
- **Cross-Platform:** Java ensures the solution works on any platform (Windows, Linux, macOS).
- **User-Friendly:** Simple GUI (using Swing or JavaFX) for embedding and extracting data

END USERS

Users can securely hide sensitive information (e.g., passwords, messages) within images. The recipient can extract the hidden data using a shared key, ensuring confidentiality and integrity during transmission.

RESULTS


text - Notepad
File Edit Format View Help
Routing Number: 3423453464363
Account Number: 3[illegible]235453
Copy Move Delete Info
Size Packed Size Modified Created


Rename New folder Properties Edit History Select none Invert selection
New Open Select
Search test
Date modified Type Size
8/3/2018 8:12 AM PNG File
12/7/2019 10:37 AM PNG File
12/7/2019 10:32 AM Text Document
12/7/2019 10:32 AM Compressed (zipp...
File Edit View Favorites Tools Help
Add Extract Test Copy Move Delete Info
Name Size Modified Created Comment
test 2019-12-07... 2019-12-07...
DaVinci Resolve Pr... 2 012 2019-11-13... 2019-11-13...
desktop.ini 282 2019-11-29... 2018-08-08...
Resolve.lnk 1 992 2019-11-13... 2019-11-13...
Twitch Studio.lnk 1 138 2019-11-12... 2019-11-12...

CONCLUSION

- The project successfully demonstrates the concept of secure data hiding using steganography in Java. By embedding encrypted data into the least significant bits (LSBs) of an image's pixel values, the solution ensures that sensitive information remains undetectable and secure during transmission. The use of basic encryption techniques adds an additional layer of security, making it difficult for unauthorized users to access the hidden data.

GITHUB LINK

THANK YOU

edunet foundation