National College of Ireland

Configuration Manual

Acamdemic Internship
MSc in Cybersecurity

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MSc Project Submission Sheet

School of Computing

Student Name:	Bharat Moganti
Student ID:	x22150935
Programme:	MSc Cyber Security **Year:** 2023-2024
Module:	Academic Internship
Supervisor:	Vanessa Ayala-Rivera
Submission Due Date:	31/01/2024
Project Title:	Securing secret data using an enhanced Camellia encryption with steganography using pixel indicator technique
Word Count:	604 **Page Count** 2

I hereby certify that the information contained in this (my submission) is information pertaining to research I conducted for this project. All information other than my own contribution will be fully referenced and listed in the relevant bibliography section at the rear of the project.
ALL internet material must be referenced in the bibliography section. Students are required to use the Referencing Standard specified in the report template. To use other author's written or electronic work is illegal (plagiarism) and may result in disciplinary action.

Signature: Bharat Moganti

Date: 31/01/2024

PLEASE READ THE FOLLOWING INSTRUCTIONS AND CHECKLIST

Attach a completed copy of this sheet to each project (including multiple copies)	□
Attach a Moodle submission receipt of the online project submission, to each project (including multiple copies).	□
You must ensure that you retain a HARD COPY of the project, both for your own reference and in case a project is lost or mislaid. It is not sufficient to keep a copy on computer.	□

Assignments that are submitted to the Programme Coordinator Office must be placed into the assignment box located outside the office.

Office Use Only	
Signature:	
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1 Section 1

1. Install the v2.3 (2023) version of PyCharm on the user's system. PyCharm is an integrated development environment (IDE) specifically designed for Python development.

2. Setting up new project in PyCharm,
   - Open PyCharm and create a new project.
   - Choose a name and location for your project.
   - Set up Interpreter:
     - Go to File -> Settings -> Project: <Give the project name> -> Python Interpreter.
     - Click on the gear icon ➕ and select 'Add...'.
     - Choose the interpreter user want to use (preferably the one with the required libraries installed).
     - Ensure the required packages (PIL, getopt, crypto) are installed within this interpreter.

3. Import Code:
   - Copy the provided code into a Python file within your PyCharm project.
   - Save the file with an appropriate name.

4. Check Dependencies:
   - Ensure the dependencies (PIL, getopt, crypto) are properly recognized in PyCharm without any errors or warnings.

5. Libraries Installation:
   - If the required libraries (PIL, getopt, crypto) aren't installed in your interpreter, you can install them using the terminal or PyCharm terminal.

6. Using PyCharm Terminal:
   - Open the terminal within PyCharm.
   - Use pip install pillow getopt to install the necessary libraries.

7. Using System Terminal:
   - Open command prompt terminal in user system.
   - Navigate to the project directory.
   - Run pip install pillow getopt to install the required libraries.

8. Step-by-Step Evaluation:
    - Review the provided code to understand its functionalities and dependencies.
    - Ensure you comprehend how encryption, decryption, LSB hiding, and endian hiding are implemented.

9. Run the Code:
    - Ensure you have sample images and files ready for hiding and extraction.
    - Update the code paths (inputImagePath, hiddenFilePath, outputImagePath) according to user's file system.
    - Execute the code and observe the output/error messages.

10. Test Encryption and Decryption:
    - Test encryption and decryption functionalities by providing a password and checking the output.
    - Verify if the hidden data can be successfully extracted back.

Tabel 1: The summary of the application versions used in this project.

Feature	Version
PyCharm	2.3 (2023)
python	3.11.5