REQUIREMENTS

3.1 EXISTANCE OF STEGANOGRPHY SYSTEMS.

As we know steganography is a method of concealing secret data inside various multimedia carriers (E.g., Images, Videos, audio, network). We are currently working on Image Steganography it is a process of hiding our secret data inside the images. Various Steganography systems have been developed by various programmers. For achieving the image steganography applications are used and some websites are also available for us. In these applications or websites mostly, there will be options like insert image, text, key for encryption and same process for decryption. In the encryption process text will be concealed into image and then using the same application or website the receiver can decrypt the text.

3.2 OVERVIEW OF PROPOSED SYSTEM.

As we can observe that in the proposed system there is security issue as we can decrypt the text with any another application or website. This will create a problem for the sender as well as the receiver also. In the proposed systems we need internet for achieving the image steganography. To avoid all these issues, we have developed a project based on LSB substitution method works on a simple GUI, in our project firstly to achieve security. We are firstly encrypting the text using caesar cipher substitution. Then using LSB substitution we encode the text into the image and the receiver should use this program for decryption. If a third person has the image but doesn't know the program, suppose he/she has decrypted the image using another algorithm he/she can see the text but in an encrypted way. This makes our system more robust. And in the same way if a person has our program but he doesn't have the encrypted image of this algorithm. Suppose he/she wants to decrypt an image of another different sender the program will able to decrypt the text but the text will be returned in an encrypted way. This makes another sender data also to be secured by the third person.

3.3 SYSTEM REQUIREMENTS.

3.3.1 FUNCTIONAL REQUIREMENTS

Functional requirements are the requirements that define specific behavior or function of the system.

➤ **Secret Text Message**: The message which you want to hide should be written in this label.

➤ **Cover Image**: Cover Image is the image is to be selected in which secret text message can be hidden. This image can be any type of image with any image extensions.

➤ Stego Least Significant Bit Substitution encryption implementation is performed on cover image to hide secret text message by replacing bits of cover image by the bits of message.

➤ Sender send this stego image file to intended recipient to which he does want to communicate.

➤ Receiver receives the stego image and opens in decryption option for getting hidden text message inside that image.

3.3.2 NON-FUNCTIONAL REQUIREMENTS.

➤ Safety Requirements:

As the image is between the sender and receiver both the sender and receiver should use same program to Encrypt and Decrypt. Sender and receiver should take care of no one should steal the code and use it for the image.

➤ Security Requirements:

We have developed a GUI software in which embedded secret text data in image. Only sender and receiver should be aware of encrypted file.

➤ Software Quality Attributes:

The Quality of the software is maintained in such a way that only sender and receiver can communicate through image. There is no probability of knowing secret image.

3.3.3 SOFTWARE REQUIREMENTS.

- ✓ Operating system: Minimum windows XP or more, Linux, Ubuntu etc.…,
- ✓ Software application: PyCharm.
- ✓ Packages: OpenCV, types, PyAutoGUI, Tkinter, NumPy etc.…,

3.3.4 HARDWARE REQUIREMENTS.

- ✓ Minimum hardware requirements:
  - o Pentium 3 166 MHZ or Higher 128 mb RAM.
  - o Hard drive space: minimum 8GB.