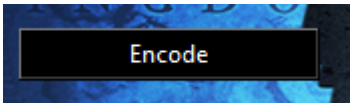
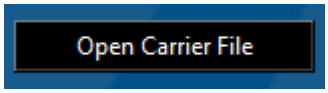
User Manuel

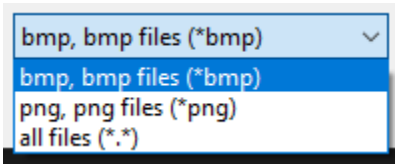
1. Download libraries
    a. Python 3.8.3
    b. Install PIL (pillow)
    c. Install tkinter
2. Open terminal, run the program (gui.py)
    a. python gui.py

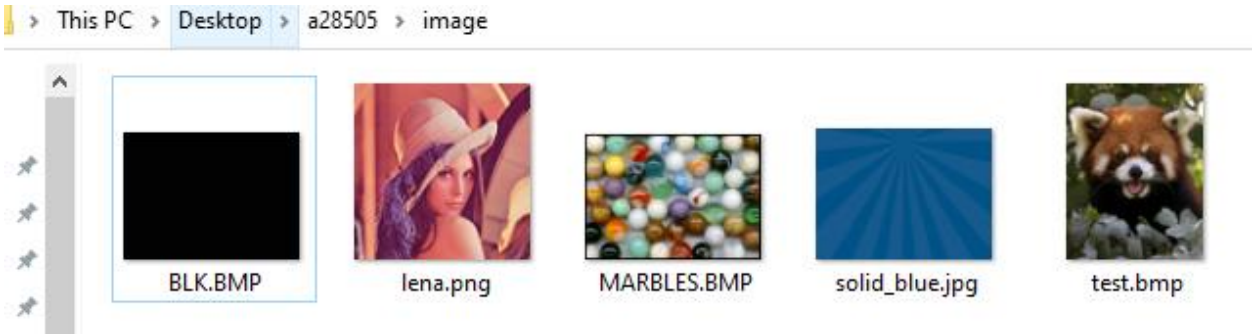
```
>python gui.py
```

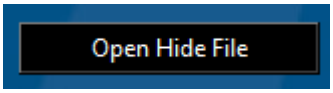
3. Click Encode button 

4. Choose Carrier file from image 

5. Select a BMP image as carrier image from image folder. If you cannot find the image. Click all files in the right bottom corner.

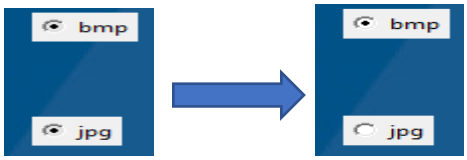




6. Select a PNG file as secret image 

lena.png

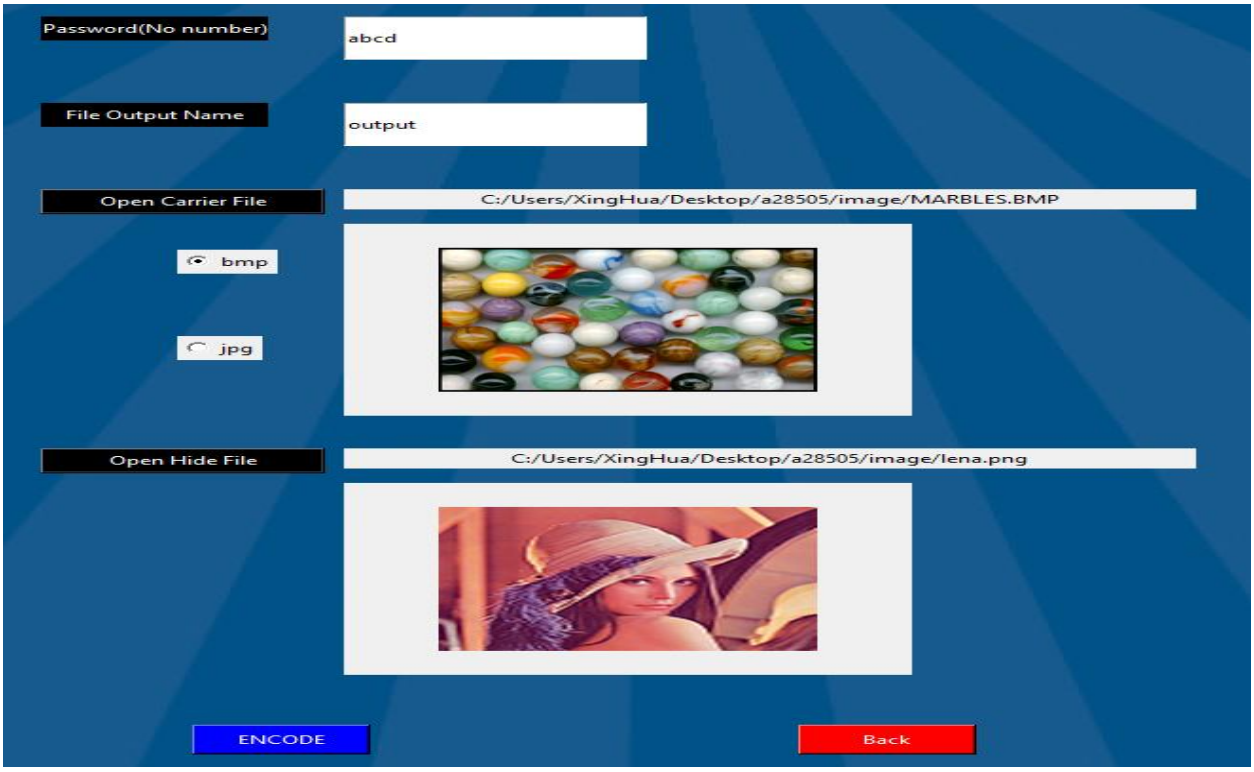
7. Choose Carrier image type. If the carrier image is a bmp image, click bmp radio. If the carrier image is a jpg image, click jpg radio.



8. Enter password. The password should be 4 characters without numbers. E.g. “abcd”.

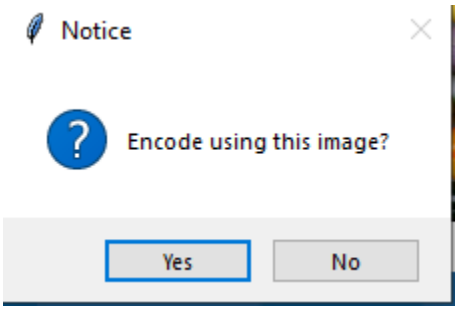
9. Enter output file name. Don’t need to add file extensions. E.g. If you want output file name “output.bmp”, type “output”

10. This is example of a correct set up

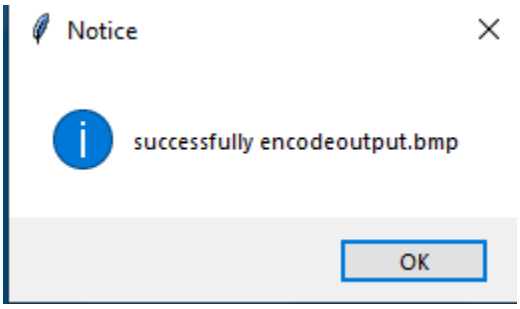


11. Click ENCODE button to encode 

12. Click yes if you want to continue. Click No to go back and change set up.

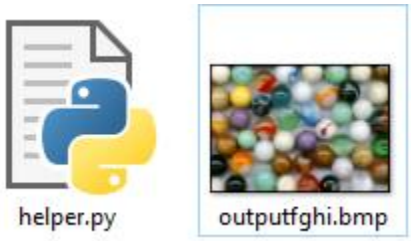


13. This shows encode success. Click OK button.



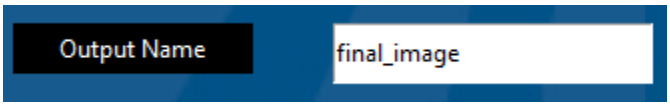
14. Click Back button to go back 

15. If you want to check the modified image, go to the folder where the python codes are. Your image name should be your entered file name plus 4 meaningless characters. E.g.

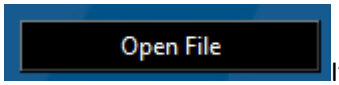


16. Click Decode button to go to decode page. 

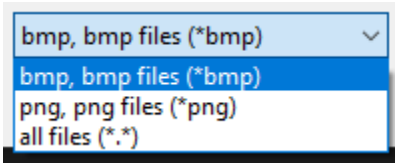
17. Enter output file name without file extensions. E.g. “Final_image”



18. Enter Correct password for the image. E.g. “abcd”

19. Choose the image to decode. 

If you cannot find the image. Click all files in the right bottom corner.



20. Go to upper directory and find your modified carrier image. This is a example of correct set up.

21. Click Decode button. 

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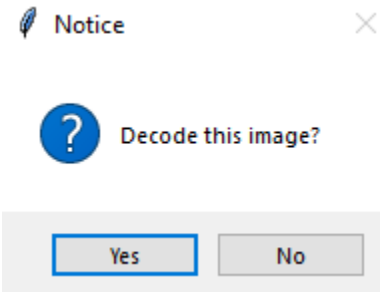
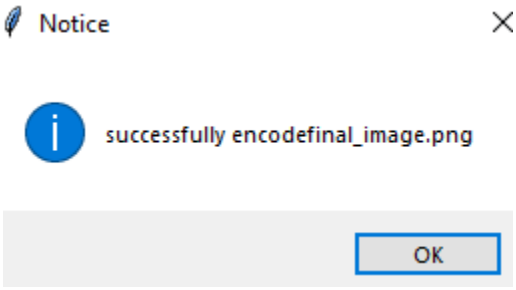
22. Click yes to continue or no to go back.



23. Decode finished. Click OK button.



24. Click OK button and your secret image will automatically pop out.

25. If you want to check your decoded image in directory. Go to where the python files are. Your image is named what you just entered in the decode page.


final_image.png