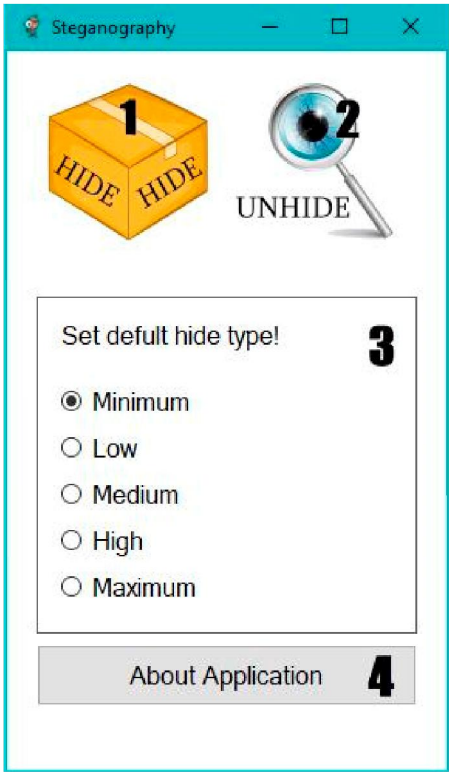
About Application

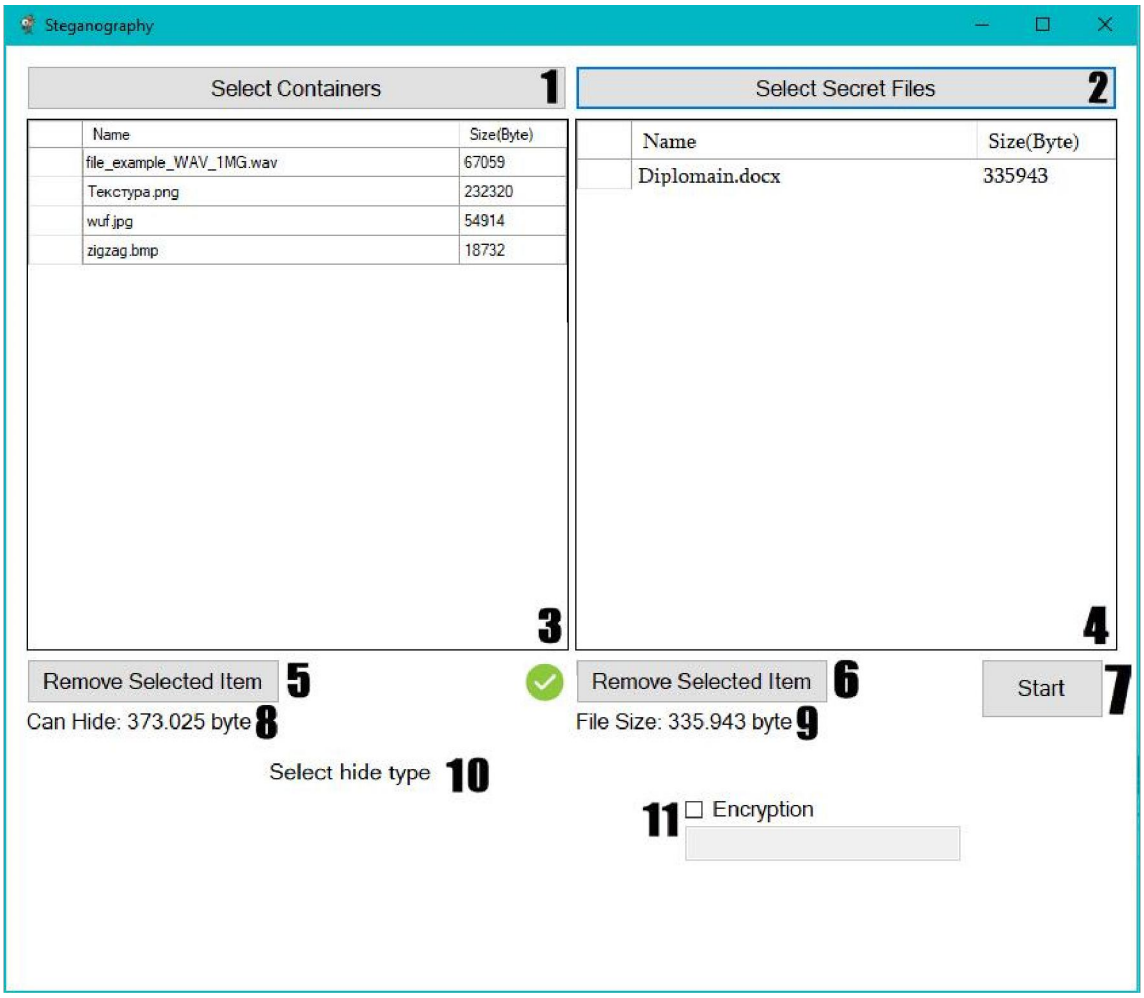
The application was created by Muradyan Eduard in 2020 for the diplom of the National Polytechnic University of Armenia. The application is designed to hide any format type to PNG, BMP, JPEG և WAV file format. Data can be encrypted by using AES 128. The application does not have a file size limit, but when working with large files, it takes a lot of time for stegonography. Encryption improves privacy our information, but the cryptographic process is addictive. The initial view of the application is shown in picture 1, where

1. HIDE button – when pressed, opens a new window in which decoding is performed
2. UNHIDE button – when pressed, opens a new window in which encoding is performed
3. Radio buttons – select the default type of steganography
4. About Application – on click, opens a new window where it says how to use the application

When you click on Hide or Unide buttons, then opens a new window which is shown in picture 2

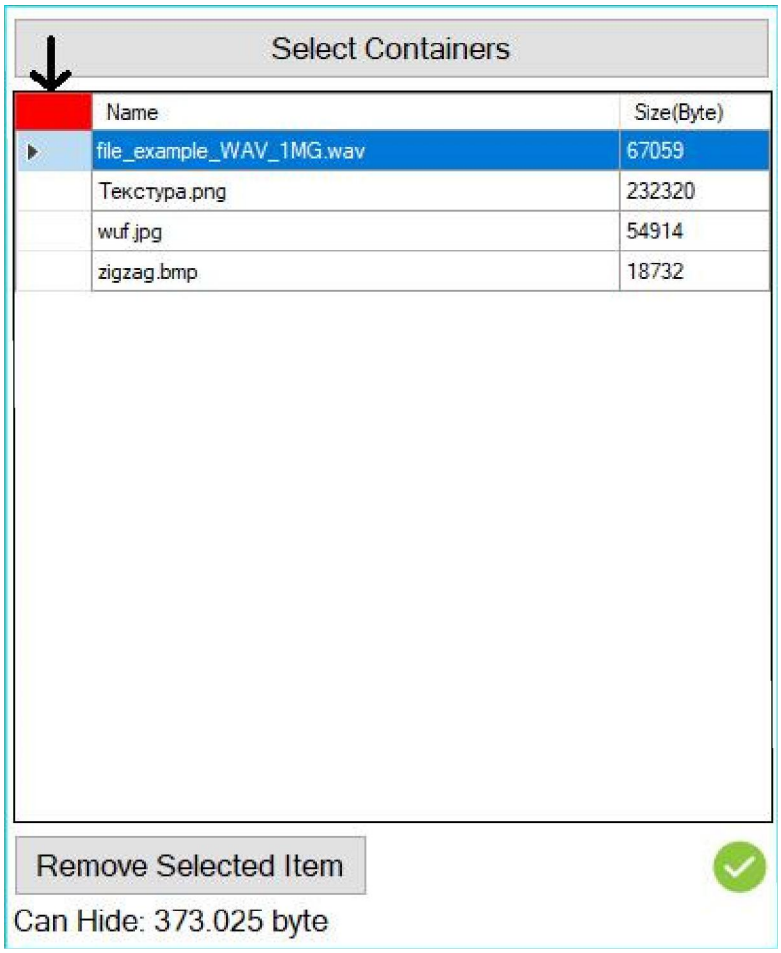


Picture 1 Initial view of the application



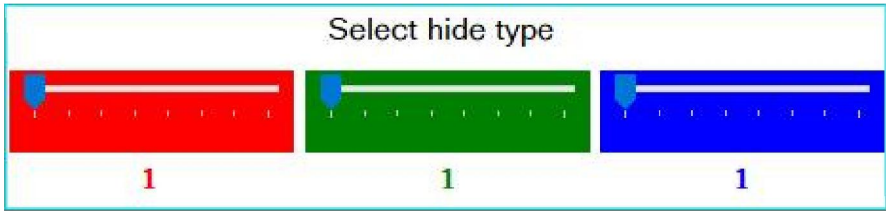
Picture 2 Stegonagraphy window

1. Select containers where steganography is performed
2. Select the files which we want to hide
3. This table shows all the selected containers that will be used for the steganography.
4. This table shows the files that will be hidden in containers
5. This button remove selected items from table 3
6. This button remove selected items from table 4
7. When pressed, the steganography process begins
8. Shows how much information (in bytes) can be hidden
9. Shows the size of secret information (in bytes)
10. Shows container options
11. We can encrypt the secret files



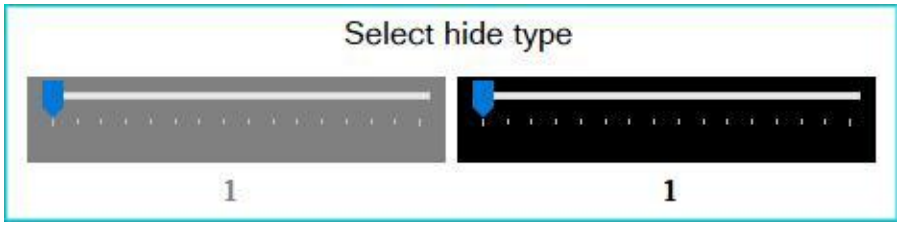
Picture. 3 Container table

3rd picture shows the table with containers. To select a container you need to select the first column in the table as shown by the arrow in the picture 2. When you click on the red button, all containers will be selected. Remove Selected Item button removes all selected containers. In the table 2nd column shows the name of the container and the 3rd column shows the size that container is able to hide. After the selected container, the steganography options are listed below. 4rd picture shows an example of options for BMP and PNG formats.



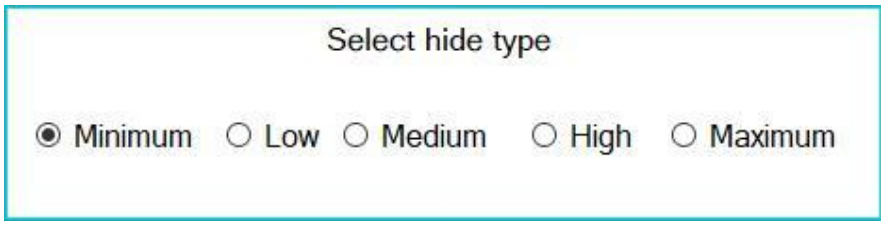
Նկ. 4 Stegonagraphy method for BMP և PNG fprmats

Here we choose how many bits we want to use from pixel for stegonography. Select red green blue color component from pixel. 5th piture shows an example of parameters for the WAV



Նկ. 5 Stegonagraphy method for WAV format

format. Wav can contain one or two channels. The picture shows an example with two channels. With one channel, the right trackbar will be absent. The left trackbar shows how many bits we use for the left channel and the right shows for the right channel. 6th picture shows stegonagraphy parametrs for



Նկ. 6 Stegonagraphy method for JPEG format

JPEG format. When choosing jpeg we have 5 choices. Minimum use 1 Low 3 Medium 5 High 7 and Maximum 10 bits from coefficient.