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DESIGNING GUI SYSTEM FOR HIDING INFORMATION BASED ON A CONSISTENT ALGORITHM OF STEGANOGRAPHY

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This article discusses designing the GUI system for hiding information based on a consistent algorithm of steganography. The degree of suitability of containers for modifications is analyzed. The description of modeling scams, resiliency and determination of algorithm's efficiency is done.

The development of mankind, due to his desire to secure and safe life, always was generally sustained. Progress broadened their horizons and knowledge gradually improved the quality of life of people, their capabilities, and increased the growth of their needs and requirements. For this simple reason, nowadays people try maintain the desired level of security. It became a key issue. A lot of money, time and effort are spent to reach this goal. One of the security methods stored and transmitted files is to convert them into stegocontainer.

Any application must be competently designed. It is divided into separate modules, which should be relatively independent from each other. This separation greatly facilitates not only the implementation of applications, but also its possible modification. This is the principle of modularity of object-oriented programming.

LSB application is a program to hide information in images. For the correct operation of the program, you must select a container (one of the following formats: bmp, png, jpg, jpeg), select the file and enter as the special key (which would be necessary to extract).

On the basis of the study, taking into account all factors of the development and operation of the finished software product the best programming language for the implementation to Java programming language has been selected. To detect errors, verify implementation of functional and non-functional requirements to the program have tested developed automated system. In tests was activated personal computer on which you have installed the required list of software products, and meets the requirements to the composition of the hardware. Based on this document were tested.
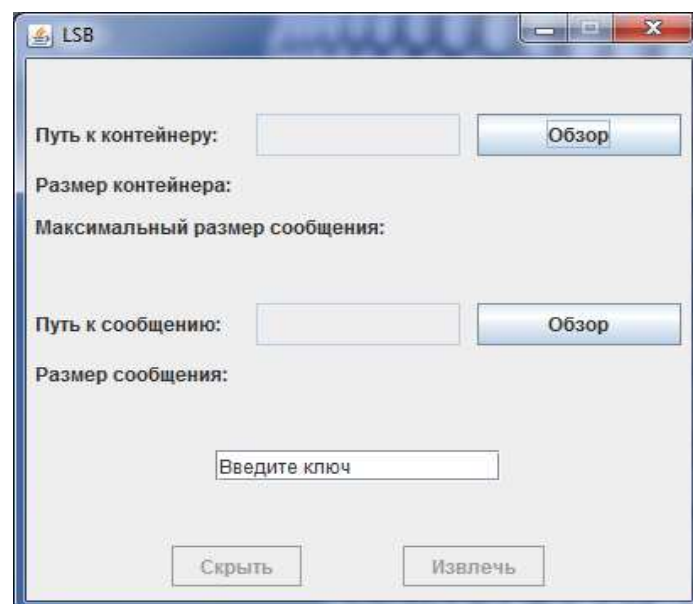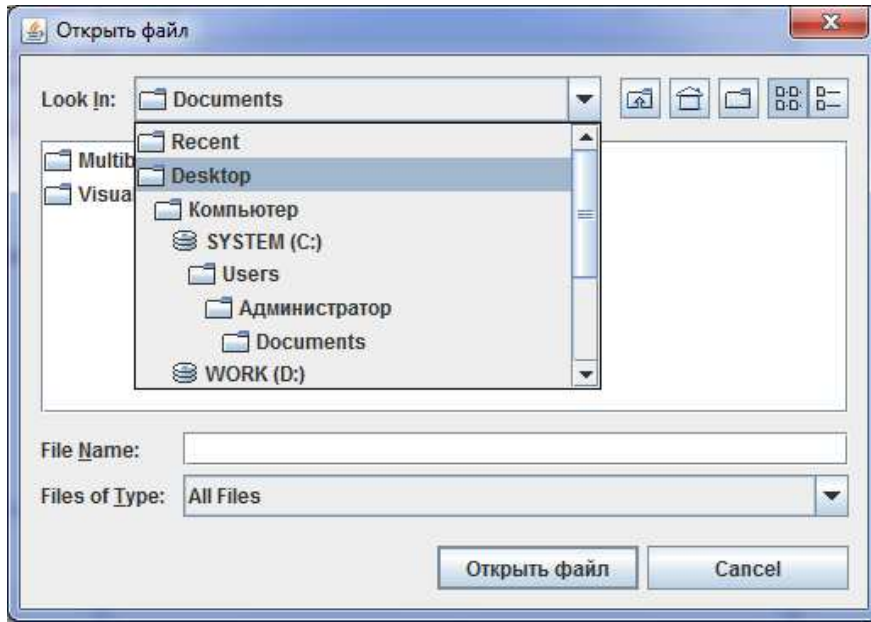

Figure 1. – Program interface

Figure 2. – Select a file to encrypt

When it was revealed that the algorithm has resistance to most known steganoatak, including compression attack to affine transformations, geometric attacks.

During the research, it was determined that the human eye is more sensitive to noise at low intensity colors.
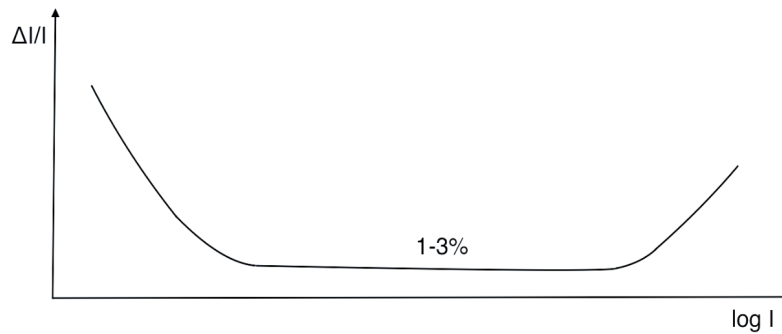

Figure 3. – The dependence of the contrast of brightness

During testing it was found that the proposed method enables to produce graphic compression up to 10%. The same detailed study was conducted to select the development Wednesday. On the basis of the facts submitted for the design chosen Eclipse Wednesday, as a wrapper for the rapid development of high-quality interface.

In this article, you learned how to build a graphical interface to hide information system based on sequential algorithm of steganography, the analysis of the degree of suitability of a container for modifications, modeling and identification resistance to them.

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