ABSTRACT

Thesis: 85 p., 10 fig., 5 tables, 2 appendixes and 14 sources.

The object of the study - the analysis of pupils movement algorithms, processing of natural movement and interaction with the computer control.

The aim of the paper - pupil movement recognition with help of built-in webcams system, data processing and interaction with the computer.

In the given paper we have analyzed the existing equipment used in the detection of pupils defining their main advantages and disadvantages and have proposed qualitative characteristics of evaluation method .

The system with maximum accuracy of pupils recognition, fast interaction and user friendly speed control was designed. The system is implemented in the format of the program.

Further it is recommended to improve this diploma, creating a more accurate pupils recognition algorithms and use a webcam on a computer with greater resolution.

We also recommend experimenting with different algorithms for computer cursor control, and apply recognition modules at a greater distance, making the program more convenient to use.

DATA ANALUSIS, NEURAL NETWORKS, COMPUTER VISION, RECOGNATION, CASCADE OF HAAR, CLASSIFICATION, CURSOR CONTROL.