TOY EXPLORER

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ABSTRACT

Assisting 5 year old kids by exploring their toys requires a special design. This project 'Toy Explorer' looked into assists kids and creates an imaginative play with their toys. The intention of the project is to recognize the image of a toy and play an animation video related to image of a toy which is identified. The image of the toy is captured using web camera and transfers it to computer through Universal Serial Bus (USB). The technique used for identifying an image of toy is Local Binary Pattern (LBP) approach. Several image processing techniques such as indexed image, binary value extraction, histogram and threshold value has been adopted in Local Binary Pattern method. The programming environment used for this project is MATLAB 7.0. The GUI is designed for image identification. Using GUI the user can input the image of a toy; the histogram value of input image is calculated by using various image processing techniques. The system will recognize the input image by comparing its histogram value with the database. Finally the animation video related to the identified image is played automatically.

The system design met all the objectives successfully and it carried out various test runs to prove its validity. The design can recognize any image of toys with only pre-requisite that its related image has to be stored in database before commencing this design, in fact this conception is one of the limitation of this project. This project can be further amended by recognizing the toy directly instead of using its image.

Keywords: Local Binary Pattern (LBP), histogram, threshold, binary value extraction, indexed image, MATLAB