Real Time Virtual Vision Editor Using MATLAB

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Abstract--- The concept presents an idea to editing captured image should be around visual and intuitive as photography itself. This is to enable the rapid, accurate, flexible, and provide user the ability to embody their ideas in an innovative way and effective.

The goal of this dissertation is to create a visual user interface completely new; which provides various tools available at the same time and convenient and immediate access up to four parameters simultaneously. To study about different techniques of object detection & motion detection. To interface changing the parameters of the selected image depending on the location of objects in relation to the frame and also to design a GUI of virtual vision editor in real time using MATLAB.

General Terms -- Virtual image editing

Keywords: Object detection, Motion detection, Thresholding, Color segmentation.

I. INTRODUCTION

We project summary evidence-based interface-computerized image processing in real time. By using a net-work camera, objects are defined pre-designated area the user can edit the images in real-time digital album private. The interface allows intuitive approach immediate and various tools in image processing, such as brightness, size, rotation, cropping, etc. The user can edit up to four parameters simultaneously.

The problem now lies in the processing after photography. Despite the many developments in cameras and photographic software, most of which we catch images require further processing to achieve the results they hoped for. There is crop, sharpen, rotate, and perform basic operations booty and advanced to reach the desired result.

Most of the desktop image processing software basic and advanced is based on a user interface similar. Toolbars surrounding work surface is stand allow the use of single-all approach to processing, which the editor with the mouse or by entering designated fields numeric values. Unable to work several different tools simultaneously, and can be changed only parameter one in every action.

For example touch screens allow additional degree of freedom, and editing of up to two parameters which same time.

A. OUR SOLUTION

Let the work area defined temporary table and thus will turn any home desk surface editing images. Placemat will contain the number of frames that will be used for identifying software work areas.

The surface will be placed within the frame objects token in different colors, and with a change in location the user changes the selected image parameters depending on the Settings.

B. Difficulties are expected to

Identification of the surface and objects are varying lighting conditions and angles sharp. Initially we assume constant illumination and a camera to place above the surface, and then we will use in extreme conditions.

C. Software steps

1) Beginning of the work:

   1. The Detection work surface
   2. Real time the identification of objects on the work surface, change the parameters of the selected image depending on the location of objects in relation to the frame.

2) Tools

MATLAB environment which includes:

   1. The image processing tool - Image Processing Toolbox
   2. The computer vision tools - Computer Vision Toolbox
3. Free webcam optical zoom 720p resolution

3) Application
1. To improve Digital photo album home.
2. To improvement of night mode photography.
3. Development of a cellular application for Android or iOS

D. ALGORITHM

![Block diagram of implemented algorithm]

E. Steps:
1. Collecting information from the camera.
2. Surface detection and separation.
3. Identification and classification of rectangles object.
4. Round object detection.
5. Orientation detection of color object.
6. Finding location of objects that are inside the rectangles.
7. Detection distance between object and orientation between object.
8. Then Target image rendering.
9. If result is not satisfied go to third step and process to be continued.

II. EXPECTED RESULT

![Work surface painted with ink & ruler]

![Original image]

![Low brightness (Changing only one parameter)]

![Low brightness & rotate image (Changing up to two parameters)]

![Low brightness, Rotate, Resize image (Changing up to three parameters)]
III. CONCLUSION & FUTURE WORK

By the experiment results with a change in location the user selects an image it wants edit, can changing up to four parameters parallel (brightness, rotate, resize, crop) which is shown in fig 7 to 10.

IV. FUTURE WORK

1. Editing up to 6 parameters simultaneously.
2. In addition we want to minimize the perceptual change Due to the size of the handset and create a uniform at work and approach, whether desktop or mobile platform, large or small.
3. Development of a cellular application for Android or iOS.
4. Work on real time video.

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REFERENCES