

A Review on Image Tracking Technique in Labview

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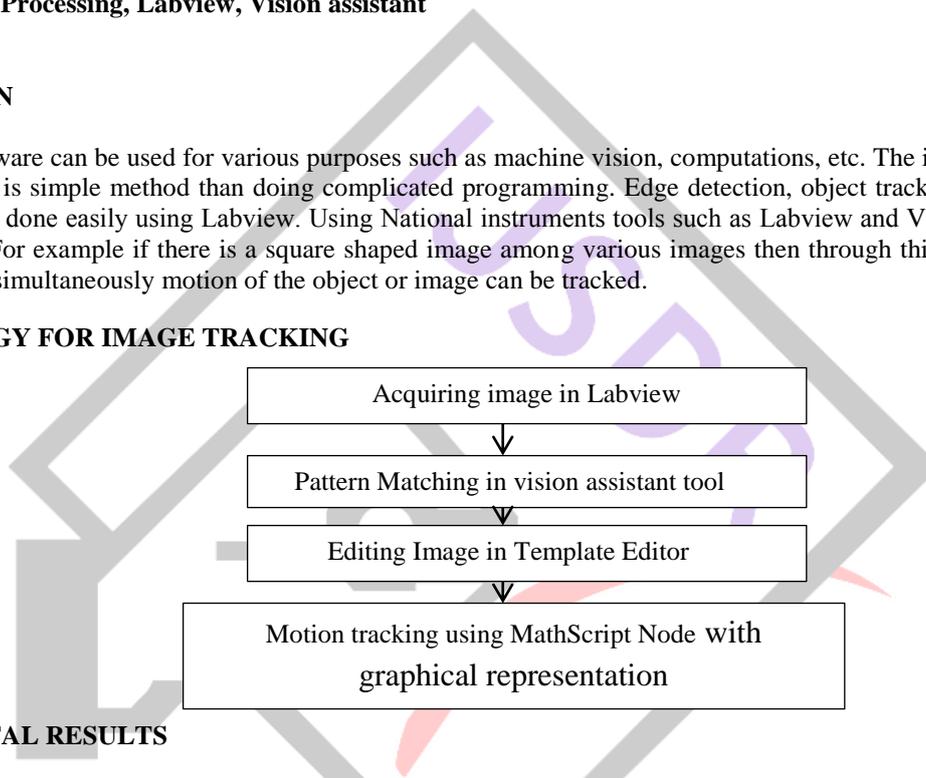
Abstract: The image processing is important part of virtual instrumentation. The Labview software can be used for image processing to have better results. This paper reviews on the image processing technique such as image tracking. The software such as Labview and Vision assistant are integrated to accomplish image tracking. In this paper the pattern of the circle is selected among the other shapes and using mathscript node the motion is tracked and represented on the graph successively.

Index terms- Image Processing, Labview, Vision assistant

I. INTRODUCTION

The Labview software can be used for various purposes such as machine vision, computations, etc. The image processing using block representation is simple method than doing complicated programming. Edge detection, object tracking, histogram, pattern matching etc. can be done easily using Labview. Using National instruments tools such as Labview and Vision assistant it's easy to track the image. For example if there is a square shaped image among various images then through this software it is easy to track the image and simultaneously motion of the object or image can be tracked.

II. METHODOLOGY FOR IMAGE TRACKING



III. EXPERIMENTAL RESULTS

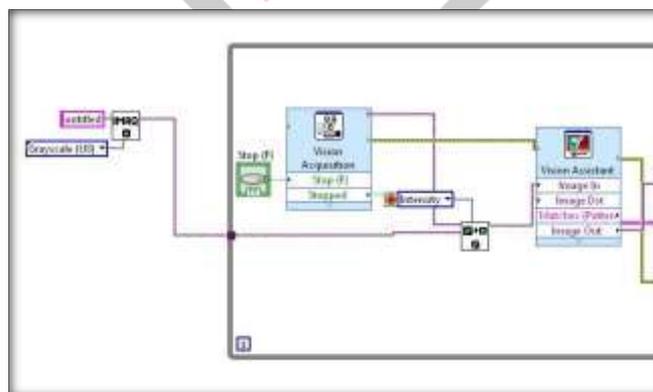


Figure 1. Block diagram of image tracking

By constructing the block diagram in the Labview and integrating with vision assistant tool it is possible to track the image easily. In the above figure.1 the vision assistant tool also integrated with vision acquisition tool. The image is acquired through webcam and incorporated in Labview and in the vision assistant tool the part of the template is selected using pattern matching option as shown in fig.2. Automatically the standard image is loaded in the Labview.

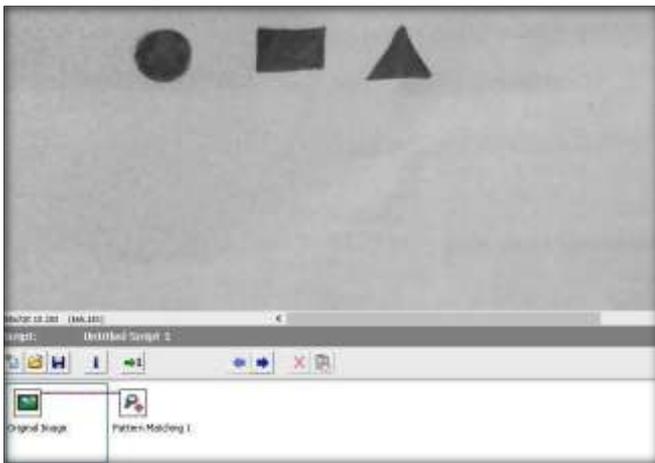


Figure 2. Image for the pattern matching

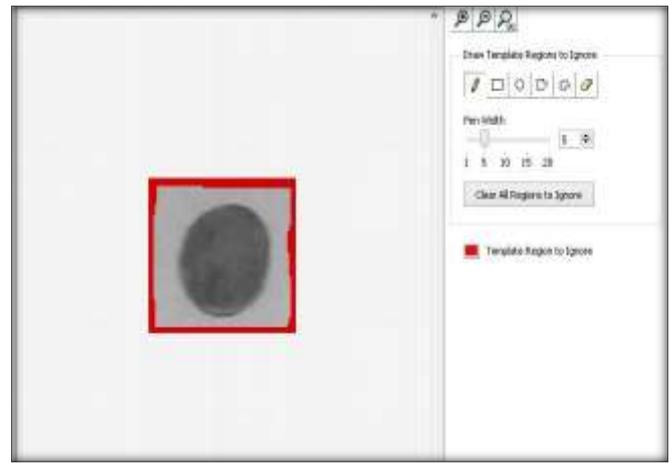


Figure 3. Template editor

In the vision assistant tool the template of the image is selected which is to be tracked for example in the given fig.3. The circle is to be tracked among the other shapes. After the image edited in the template editor. The same pattern gets loaded in the labview program and as soon as the same real time image is displayed on the image frame then automatically it will track the edited pattern of the image as shown in the fig.4.

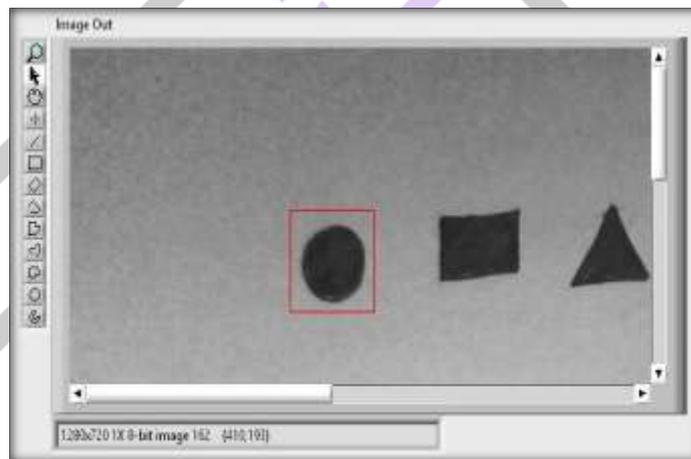


Figure 4. Pattern recognition

Among the three patterns only circle gets recognised due to standard pattern loaded earlier. The vision assistant tool is used to load the selected template and further the same pattern loaded in the Labview program as shown in fig.4..The motion of the image can be tracked using math script node which is integrated with Labview blocks. The Matlab programming is used in the script.By virtue of which the graph is plot where the motion of the image can be represented easily as shown in fig.5. The motion of the matched image is tracked as shown in figure.6. The graph is plotted using approximate scale in the mathscript programming and the image is moved in the focus area of the camera. As the image gets matched the red colour square bracket appears in the region and as soon as the image is moved, motion of the pattern gets tracked and path followed can be easily represented using the graph

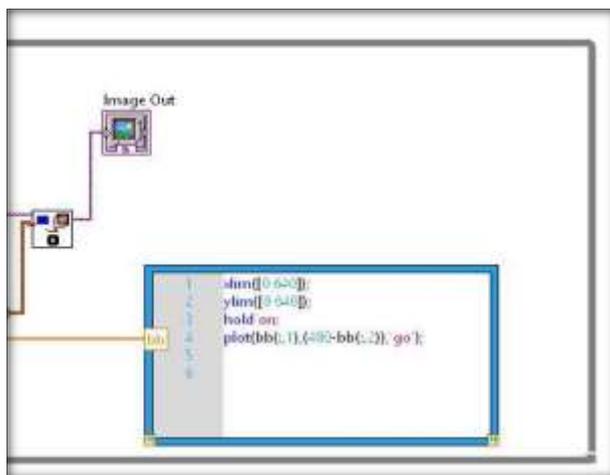


Fig.5. MathScript Node in Labview

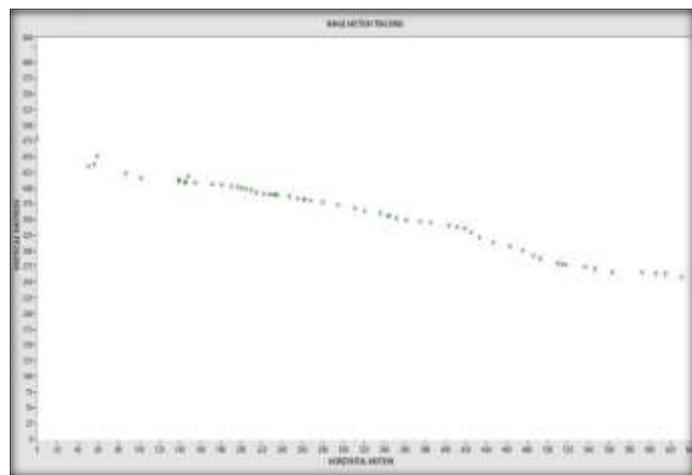


Fig.6. Motion tracking

IV. CONCLUSION

The image of the circle is recognised among the other shapes and simultaneously the motion of that image pattern is tracked and represented on the graph. This paper is a review mentioning the optimised process of image tracking using Labview. There are several procedures to track the images, amongst those methodologies this procedure is easier to define and requires stipulated time for the accomplishment of the task.

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