Abstract

Segmentation subdivides a CAPTCHA image into its constituent regions or objects. The point to which the subdivision is carried depends on the problem being solved. That is, segmentation should end when the objects of interest in an application have been isolated. Without a good segmentation algorithm, an object may never be identifiable. Image segmentation continues to be an vital and active research area in image analysis. Many techniques have been proposed to deal with the image segmentation problem. They can be broadly grouped into the following categories. Histogram-Based Techniques, Edge-Based Techniques, Region-Based Techniques, Hybrid Techniques. The accuracy of segmentation is highly dependent on the success or failure of each computerized analysis procedure. After the segmentation process is over, we should be familiar with, which pixel belongs to which object, the discontinuities where abrupt changes lie, tell us the locations of boundaries of regions. The connectedness of any two pixels is identified when there exists a connected path wholly within the set, where a connected path is a path that always moves between neighboring pixels. Therefore, region is a set of adjacent connected pixels. Extensive researches have been made in designing and creating different segmentation
algorithms, however, still no algorithm is found from the researches results that can be accepted and appropriate for all kinds of images, obviously, all segmentation algorithms cannot be equally applicable to a certain application.

References


Index Terms

Computer Science, Image Processing
Keywords

CAPTCHA, histogram, edge-based, accuracy