TROVING PRECISE REGION USING BRINK DETECTION ALGORITHM

[1]N.Ramesh, [2] L.Revathi, [3] P.ManjuBala

[1],[2] B.E Student, Department of Computer Science and Engineering,
IFET College of Engineering, Villupuram, India
E-mail id: nrameshcse13@gmail.com, revathi19694@gmail.com

[3] Associate Professor, Department of Computer Science and Engineering,
IFET College of Engineering, Villupuram, India

ABSTRACT: Detection of a particular region of an image is one of the most complex thing ever. Algorithms were derived for detecting and they were used for the image processing. The detection of edges are detected in low range. So, the particular region identification is become tough for perfect cropping. To make a perfect detection, we propose an algorithm called Brink Detection. This algorithm used to detect the edges of the image clearly and accurately. So, the user will get a clear outline of the image. The detection which turns the original image to grayscale image. The grayscale image is easy for cropping process. The results show that the cropped image will get an accurate border and it will be cropped from the original image. The quality of the image remains the same. The image color will not be reduced and pixel will not get affected.

Keywords: Brink Detection, grayscale image, cropping.

1. Introduction

The detection of particular region is important in image for analyzing and for Understanding. The particular part detection is the major goal of this project. This application has the major role of drawing the attentions of the human at first look of the image. Our high

dimensional color transform combines several representative color spaces such as RGB, CIELab, HSV, together with different gamma corrections to enrich the representative power of our high-dimensional color transform space. Starting from a few initial color examples of detected salient regions and backgrounds, our technique estimates an optimal linear combination of color values in the high-dimensional color transform space that results in a per-pixel saliency map. As demonstrated in our experimental results, our per-pixel saliency map represents how distinctive the color of salient regions is compared to the color of the background.
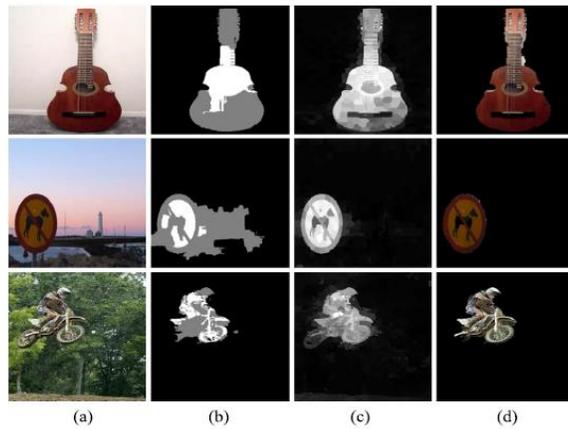
Example: (a) Input Image (b) grayscale image (c) Cropped image

Note that a simple linear combination or transformation of the color space cannot achieve results similar to ours. In such cases, utilizing high-level features, such as texture, is the only way to resolve this ambiguity. Nevertheless, we show that many salient regions can simply be detected using only color information via our high level color transform space, and we achieve high detection accuracy and better performance compared with many previous methods that utilizes multiple high-level features. From the initial particular part map, we threshold it to obtain a grayscale where pixel colors within the definite foreground and the definite background regions will be used as initial color samples of the salient regions and background. Then, we map the low level color into the high level color transform space and estimate an subject to the color samples' constraints. Finally, we combine color values in the high-dimensional color space to obtain our saliency map.

2. Related Works

The cropping was done in the two different ways (a) Instant Cropping (b) Manual Cropping

Instant Cropping:

The Instant Cropping is an systematic or automatic cropping scheme. Instant cropping uses the predefined size for the image. It can be cropped by the square brace.

Manual Cropping:

The Manual Cropping is used to cropping the images manually. we crop the image by our own choice. Instead of instant cropping, manual cropping are very easy and we get the exact images. The user can view and select the perfect grayscale image for cropping. In that Grayscale image we crop particular region to get an clear image. The cropped image can be stored into the temporary variable.


3. PROPOSED SYSTEM

MODULES:

- Authentication Module
- Registration Module
- Admin Module
  - ✓ View and Delete Images
- User Module
  - ✓ Choosing an Image
  - ✓ Selection of type
 - ✓ Selection of Crop

AUTHENTICATION MODULE:

The user and admin are allowed through authentication process. The process required valid user id and password. Our system assures the confidentiality of the data and preserves the privacy of users. The unauthorized users won't able to use this application without any permission from admin.
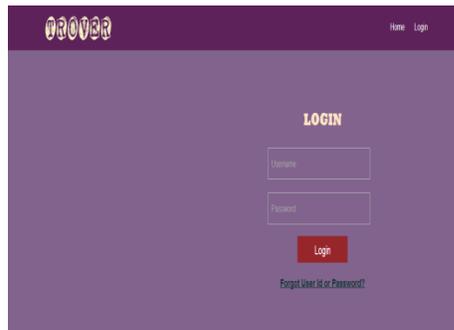

REGISTRATION MODULE:

This is to be used for new users who are all willing to join in this application. The registration must need valid details from the user. After submitting the valid details, the account has been created to that particular user with User Id and Password.
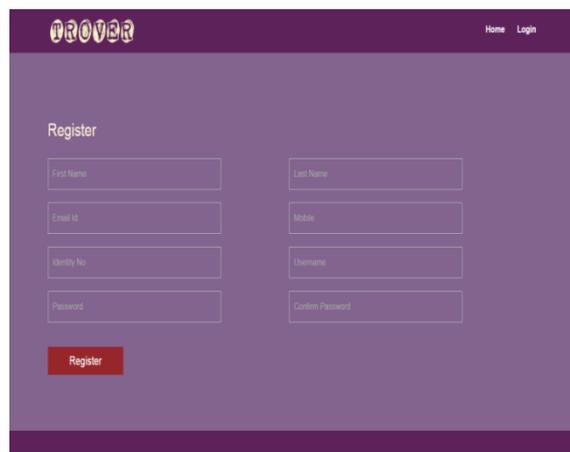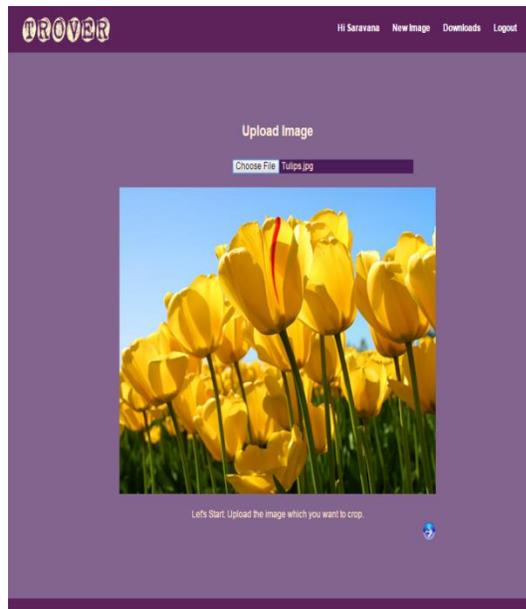

ADMIN MODULE:

Involves the operations of the Admin of this application. Here, the admin is responsible for every image which is saved in the database. The operations of the admin are, the admin can view the stored images by the user in created date. The admin can also delete the illegal images which are stored in the database without prior notice to the user.
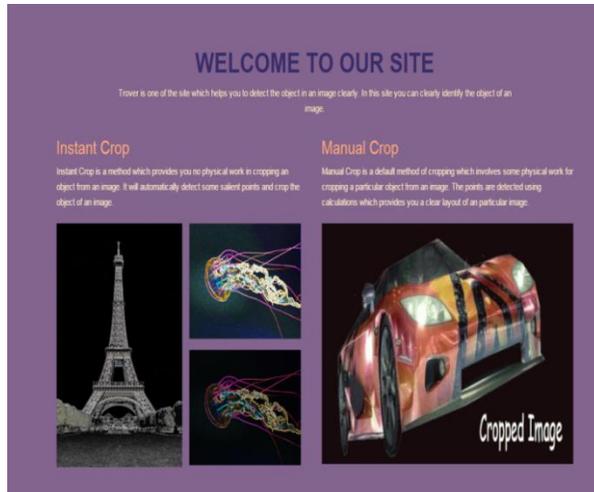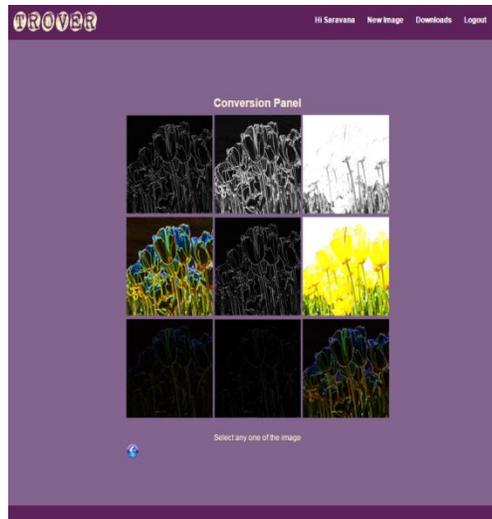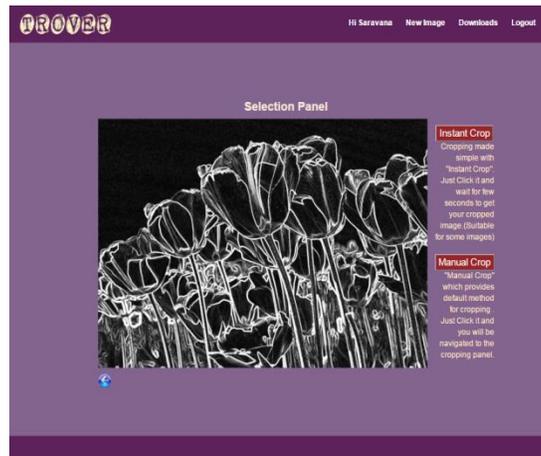
USER MODULE:

It consists of the operation which are performed by the user. Here, the user can choose and upload the image for cropping the particular region. After uploading the image, the user can select the type of grayscale they want to detect. The detection of the points in the image are varies from image to image. So, the user can view and select the perfect grayscale image for cropping. After the selection, the user must select the type of cropping they need. The cropping is in two sections: Instant Crop and Manual Crop. Each type has a specific feature in it.
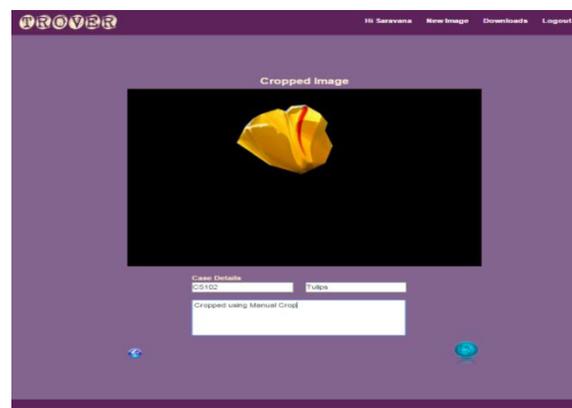

(A) Image Upload

(B) GRAYSCALE SCALE

c) Selection Panel

D) Cropped Image

4. ARCHITECTURE DIAGRAM

In authentication module, there will be two different types of login Administrator and user module. The user can upload images, crop image and then store in the database. The existing user can able to search and retrieve the images later. The administrator will give the full authority rights to the user.
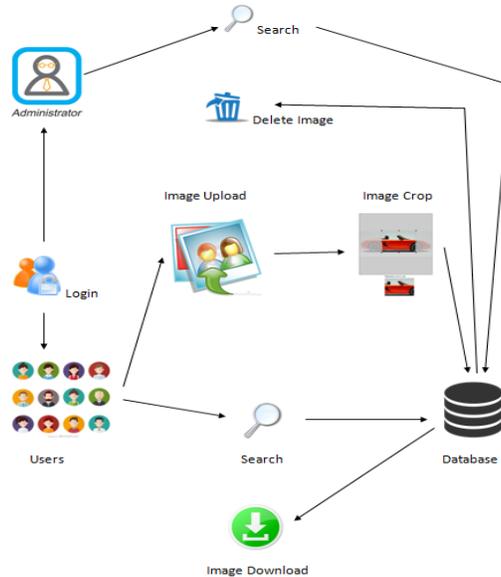
5. CONCLUSION

We have presented a novel brink detection method that estimates the foreground region and background region from a grayscale image using two different methods: Instant Cropping and Manual Cropping .As a result, our method achieves good performance and is computationally efficient in comparison to the edge detection method.

REFERENCES

[1] R. Achanta, A. Shaji, K. Smith, A. Lucchi, P. Fua, and S. Süsstrunk, "SLIC superpixels compared to state-of-the-art superpixel methods," *IEEE Trans. Pattern Anal. Mach. Intell.*, vol. 34, no. 11, pp. 2274–2282, Nov. 2012.

[2] J. Kim, D. Han, Y.-W. Tai, and J. Kim, "Salient region detection via high-dimensional color transform," in *Proc. IEEE Conf. Comput. Vis. Pattern Recognit. (CVPR)*, Jun. 2014, pp. 883–890.

[3] A. Borji, M.-M. Cheng, H. Jiang, and J. Li. (2014). "Salient object detection: A survey." [Online]. Available: http://arxiv.org/abs/1411.5878

[4] A. Borji, M.-M. Cheng, H. Jiang, and J. Li. (2015). "Salient object detec-tion: A benchmark." [Online]. Available: http://arxiv.org/abs/1501.02741

[5] L. Itti, J. Braun, D. K. Lee, and C. Koch, "Attentional modulation of human pattern discrimination psychophysics reproduced by a quantita-tive model," in *Proc. Conf. Adv. Neural Inf. Process. Syst. (NIPS)*, 1998, pp. 789–795.

[6] J. Harel, C. Koch, and P. Perona, "Graph-based visual saliency," in *Proc. Conf. Adv. Neural Inf. Process. Syst. (NIPS)*, 2006, pp. 545–552.

[7] R. Achanta, S. Hemami, F. Estrada, and S. Susstrunk, "Frequency-tuned salient region detection," in *Proc. IEEE Conf. Comput. Vis. Pattern*.