Cropping Techniques and Auto Save Contacts from Images

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Abstract-At present, various image cropping applications provides facility to crop images in squares, rectangles and circles in mobile phones. In this paper, we are implementing such cropping techniques by which a user can crop images in any of polygon shape on mobile phones.

Now a days, Optical Character Recognition (OCR) becoming very important for converting images into text format. By using OCR techniques we are developing an application which will convert images into editable format and detect 10 digits number to auto save it in mobile contacts using Google contacts sync. Recognition of the text from a given image due to low image contrast and complex background make the problem of automatic text extraction.

1. INTRODUCTION

Developing a technique where the text is extracted from visiting card image. User can able to find the contact by providing the visiting card image where this process gives good flexibility of work in daily life. Text localization and recognition in images is important for searching information in image. To obtain satisfactory results, using the optical character recognition (OCR) technique which help to extract text from images. The Optical Character Recognition is the process of identification of texts from images or electronic document.

Now-a-days cropping of image in the mobile is easy but there are so many limitation to crop image. As like shape of cropping, it can be change as per the given condition. The perfect predefined shapes are circle, triangle, square, rectangle but if there is something need to crop present in the shape of bike or any other differ shape then it becomes very difficult to crop properly or impossible in smartphones. For this situation user need new technique which can crop the surface in any shape on mobile device as well as ondesktopscreens.

If the scanned image is of good quality it is easy to extract text from images. To extract text from images we need OCR (Optical Character Recognition) technique which is use to extract text from images it will helps us to extract texts which are present in images. It extract text from image and make text file which is use to process algorithm and result is given to the user.

2. PROBLEM DEFINITION

The most prominent challenge faced by project is to extract text from image.Recognition of the text from a given image due to variations like differences in size, style, orientation, and alignment.
The low image contrast and complex background make the problem of automatic text extraction.

Image contains text of any font, but problem is to know which shape is equal to ASCII code.

Detecting the contact from given image and automatically save in mobile contacts.

Cropping the image in any customized shape on mobiles as per user.

3. OBJECTIVES OF THE STUDY

Use of OCR technique which focuses on extraction of text from images and detection of digits of mobile number.

OCR is used when recreating a similar document present on paper as a document in electronic form.

The converted text files take less space than the original image file and can be indexed. Hence the use of OCR adds an advantage to the user who had to deal with conversion of great amount of paper works into electronic form.

Using extracted text, searching of contact number is easy to perform.

4. RESEARCH DESIGN

OCR application works as follows:

start → Load image → Read pixel → Applying OCR → Edge detection → Convert to text → stop
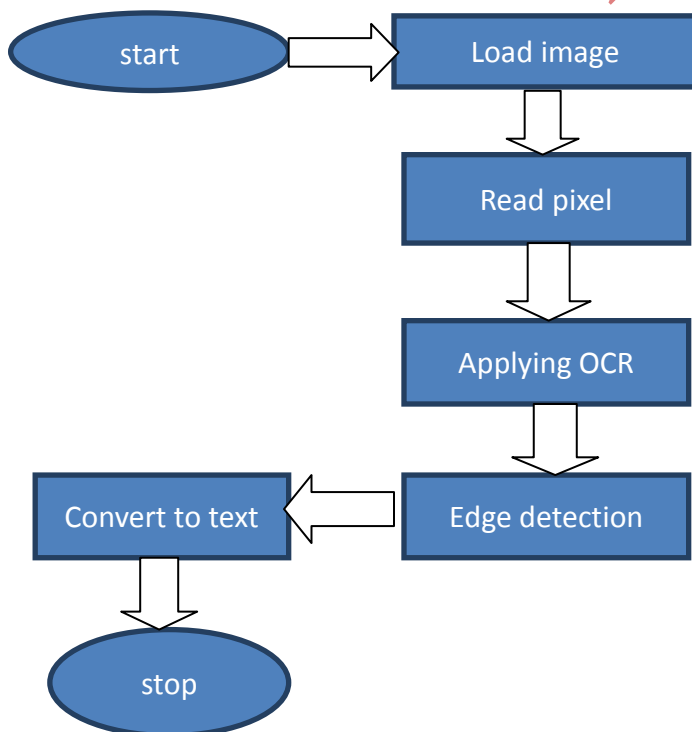
5. METHODOLOGY

As the requirement we need to divide process in two different methodology.
1. Detect mobile number and auto save it.
2. Image extraction as per cropping.

1. Detect mobile number and Auto Save it.

The first step is to click image and save it. By using OCR techniques, text is extracted from images-in other words, producing something like a TXT or DOC file from a scanned image.

Text Region Extraction-

Image are given as input, from that image text is extracted by selecting area over text and that present text on image is extracted. The input of this module is an image and output is a set of rectangles surrounding each text region of the input image. The text detection module applies some pre-processing algorithms on the input image, such as greyscale transformation, filtering, binarization, decomposition, scaling etc. After the pre-processing steps, a classification algorithm separates the texts form non-texts.

Skew Correction-

An image which is captured from Camera is very often suffered from skew and perspective distortion. Skew and perspective distortion occurs due to unparalleled axes or planes at the time of capturing the image. There are two types of pixels in every text region – dark and grey. The dark pixels constitute the texts and the grey pixels are background around the texts. The text which is not in proper from or inclined to the horizontal line is corrected. By calculating its height and distance according to the inclined image it is set to the proper on horizontal line.

Binarization-

The binarization is a process of separating the background and foreground text. It will help to detect number and names from images.

Text Region Segmentation-

After Binarization process, the selected portion from image is extracted and that extracted portion is grouped in the blocks.

Character Recognition-

The character recognition technique is use to recognize character which are segmented in image.

Searching of contact number-

In searching technique, we need to find the string which have 10 digit length and also it should be number(integer) value. Algorithm will search every single word from text file and apply condition that string is equal to length and also integer, if it is true then it save in queue. And after detecting all the mobile numbers it automatically going to save in mobile.

2. Image extraction as per cropping.

At the background, we use point to point mark-in method to crop image. We also use method of image processing to mask two images.
The tip of method is the polygon formed by points that we choose.

*Image reading:*First GUI will read the text from image.

*Reading the Pixel values in RGB:*GUI will read the colour values in RGB format.

*Converting into Greyscale:*Colour images are converted into black and white (grey) images.

*Tracing the edges of fonts:*User can crop image by mark in method by selecting each nearest points.

*Object Selection:*The traced margin is a boundary of object to be selected.

*Selected object Generation:*The selected object will be stored in database.

5. CONCLUTION

It concludes that, the application will work on two domains. First is image cropping, in that user will take image as a input in mobile and crop it in any customised shape. The cropped image will be generated in the form of output. Secondly, image is converted into text by OCR method and 10 digits are detected from it and automatically saved into mobile device.

6. REFERENCES

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