



CHARACTER RECOGNITION WITH AUDIO SPEECH USING PORTABLE DEVICE AND CAMERA

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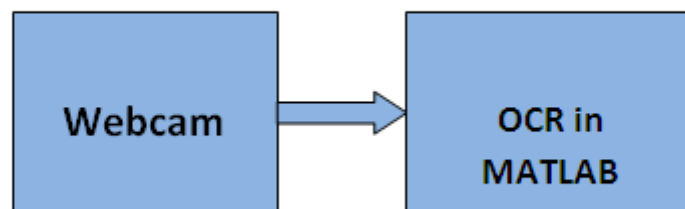
Abstract- We design a character recognition with audio speech using portable device to help blind persons to read names of the products. Camera is use to take snap of the image and given to the system .system get processed and character is recognized and save in notepad after then it is converted into audio speech by using TTS(text to speech).

Keywords- MATLAB, Webcam, pc

1. INTRODUCTION

There are so many blind people . Recent developed in, digital cameras , computer vision and portable computers make it executable to serve these individuals by developing camera based products that combine computer vision technology with other existing commercial products such optical character recognition (OCR) systems. Reading is obviously necessity in today's society. Printed text is everywhere in the form of reports, , bank statements, restaurant menus, classroom handouts, product packages, instructions on medicine bottles, etc. sufficiency so to help to read blind people we have design this kind of projects.

2. BLOCK DIAGRAM DESCRIPTION



Webcam:

A webcam is a video camera that feeds or streams its image in real time to or through a computer to computer network. When "captured" by the computer, the video stream may be saved, viewed or sent on to other networks via systems such as the internet, and email as an attachment. When sent to a remote location, the video stream may be saved, viewed or on sent there. Unlike an IP camera (which connects using Ethernet or Wi-Fi), a webcam is generally connected by a USB cable, or similar cable, or built into computer hardware, such as laptops.

OCR in Matlab:

Optical character recognition is the mechanical or electronic conversion of images of typed, handwritten or printed text into machine-encoded text, whether from a scanned document, a photo of a document, a scene-photo for example the text on signs and billboards in a landscape photo or from subtitle text superimposed on an image. It is used to convert characters in image form to characters in text form. Characters on image can have variations in font types and font sizes. The goal of Optical Character Recognition (OCR) is to classify optical patterns (often contained in a digital image) corresponding to alphanumeric or other characters. The process of OCR involves several steps including segmentation, feature extraction, and classification. Each of these steps is a field unto itself, and is described briefly here in the context of a Matlab implementation of OCR.

3.EXISTING SYSTEM

In the running world only character is recognized and save to the note pad of the system .In the running world there is a growing demand for the users to convert the printed documents in to electronic documents for maintaining the security of their data. Hence the basic OCR system was invented to convert the data available on papers in to computer process able documents, So that the documents can be editable and reusable. The existing system/the previous system of OCR on a grid infrastructure is just OCR without grid functionality. That is the existing system deals with the homogeneous character recognition or character recognition of single languages.

4.PROPOSED SYSTEM

The Captured Image Is Converted Only In Character In Notepad. It Is Not Converted Into The Audio Speech .We Are Using Text To Speech (TTS) To Convert The Captured Image Into The Audio Speech. Firstly The Captured Image Is Save Into A Memory .Then The Text Of Captured Image Is Compared With Data Base And Save In Notepad. After Then It Is Converted Into Audio Speech By Using Text To Speech.

5. FLOW OF WORKING

1. Scanning the character
2. Converting the characters to gray scale thresholding.
3. Noise removal and conversion of the character to Black & White.
4. Scanning and character extraction from edge to edge.
5. Segmentation of the detected character.
6. All noise removal based upon the different.
7. Character detection, and display and hear the character.

6. FEATURES

1. OCR (handwriting recognition in Capital)
 2. Black and White image (Black Letters and White Background)
 3. A to Z in capital and 0 to 9
 4. MATLAB
- Camera 5m

HARDWARE REQUIREMENTS:

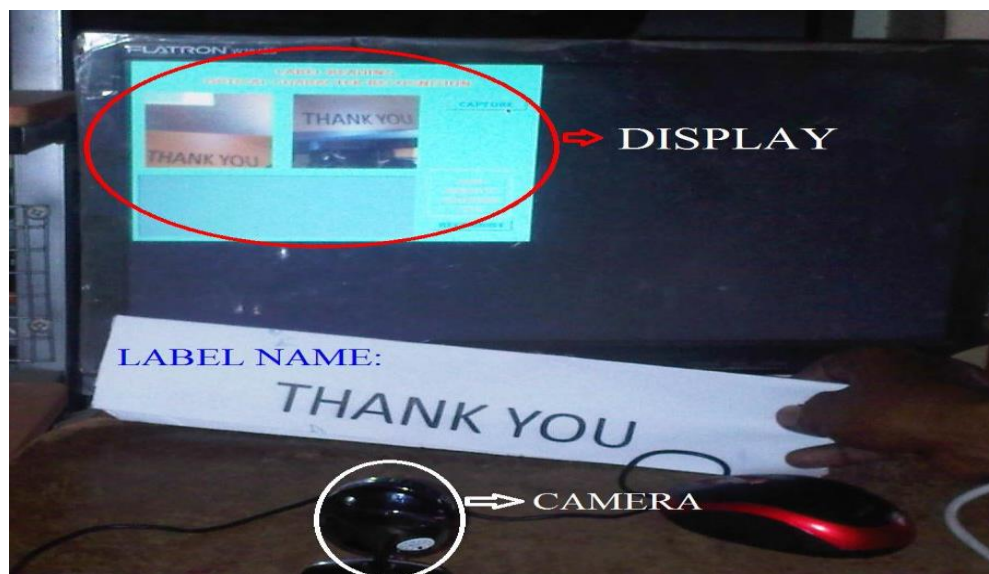
System: Pentium IV 2.4 GHz.
Hard Disk: 40 GB.
Floppy Drive: 1.44 Mb.
Monitor: 14' Color Monitor.
Mouse: Optical Mouse.
Ram: 2 GB.
Keyboard: 101 Keyboards.
Camera : 5 megapixel
Software Requirements
-MATLAB for Image processing coding

UVC driver Camera A UVC (or Universal Video Class) driver is a USB-category driver. A driver enables a device, such as your webcam, to communicate with your computer's operating system. And USB (or Universal Serial Bus) is a common type of connection that allows for high-speed data transfer. Devices that are equipped with a UVC driver, such as the Logitech® QuickCam® Pro 9000 for Business, are capable of streaming video. In other words, with a UVC driver, you can simply plug your webcam into your computer and it'll be ready to use.



Figure.4: UVC driver camera

RESULT



APPLICATIONS

1. It is used in PDA and tablet PCs. In this device, a stylus is used to handwrite on the screen of the PDA with the stylus and then the computer turns the handwriting into a digital text.
2. it is also used in blind school to help that people

CONCLUSION

What does the future hold for OCR? Given enough entrepreneurial designers and sufficient research and development dollars, OCR can become a powerful tool for future data entry applications. However, the limited availability of funds in a capital-short environment could restrict the growth of this technology. Also image text to audio speech.

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