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A PATH FOR HORIZING YOUR INNOVATIVE WORK

"HANDWRITTEN CHARACTER RECOGNITION"

MR. AKSHAY P. RUDEY[1], DR. H. R. DESHMUKH[2], MR. S. A. CHANDURE[3], MISS. S. S. THANGAN[3]

1. M. E. First Year, Department of Computer Science & Engineering, IBSS College of Engineering, Amravati.
2. Prof and HOD, Department of Computer Science & Engineering, IBSS College of Engineering, Amravati.
3. Asst. Prof, Department of Computer Science & Engineering, IBSS College of Engineering, Amravati.

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Abstract: We introduce a character recognition, usually abbreviated to optical character recognition or shortened OCR, is a mechanical or electronically translation of images of handwritten typewritten or printed text(usually captured by scanner) in to machine editable text. It is a field of research in pattern recognition, artificial intelligence and machine vision. Through academic research in the field continues, the focus on character recognition has been shifted to implementation of proven techniques. For many document input task, character recognition is the most cost effective and speedy method available. And each year the technology frees access of storage space once given over to file cabinets and boxes full of paper documents. Handwritten character OCR is use full as it is great means of converting large amounts of scanned documents into searchable format. This software is especially use full in situation where there are large numbers of forms or historical documents with handwriting on them. In such situation, handwritten recognition OCR outputs text searchable file but also allows the user to view the original handwriting on the scan side by side. This feature ensures that the user can check if any mistakes are present and rectify them.

Keywords: OCR: optical character recognition**, DAR:** document analysis and research.

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Corresponding Author: MR. AKSHAY P. RUDEY

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INTRODUCTION

Most organizations come across documents which are handwritten. Such documents can be forms, cheques, etc. They are further converted and stored in digital formats for easier retrieval. Handling of such documents manually would be a tedious and time consuming job. Normal OCR engines which recognize the printed text fail to identify handwritten texts since the handwritten character varies from person to person. Hence the necessity of a special Handwritten Character Recognition Software arises. Handwritten Character Recognition Software is an advanced OCR program designed especially for recognizing the handwritten character with Handwritten Character Recognition Software; the handwritten documents too can be easily stored in digital formats.

In spite of the major effort that has been expended to bring about a paper-free society, a very large number of paper-based documents are processed daily by computers all over the world in order to handle, retrieve, and store information. The problem is that the manual process used to enter the data from these documents into computers demands a great deal of time and money. The field of Document Analysis and Recognition (DAR) has played a very important role in the attempt to overcome this problem. The general objective of DAR research is to fully automate the process of entering and understanding printed or handwritten data into the computer. According to these ways handwritten data is generated.

Working:

There are two important ways in which handwritten character recognition software works. In one scenario it captures text from scanned image files while in another it recognizes text input in a peripheral input device. The first method of capturing text from scanned images files is where handwritten character recognition OCR is used. Here paper documents with handwritten on them are converted into image files by a scanner. These image files even though they are considered to be a digital format, are basically photographs of the paper documents and hence cannot be searched through for information.

The main structure of a recognition system is illustrated at the figure below. The first step is the segmentation one, which consist in analyzing the digitalized image provided by a scanning device, so as to localize the limits of each character, and to isolate them one from each others. Despite the constrains of writing that does often exist on the original printed form, the segmentation process is not so easy in practice. Indeed, these constrains are not always

respected, and, moreover, they do not encourage people to use automatic character recognition systems.

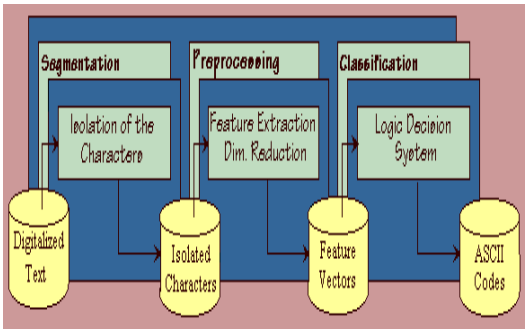

Fig 1: The internal working of Handwritten Character Recognition

Existing System:

Tesseract is a free software optical character recognition engine for various operating systems. The process of recognizing handwritten characters is carried out by optical character recognition. A standard set of ASCII characters are fed into the software which acts as the threshold for comparing the handwritten characters. The form is first scanned and converted into an image file. OCR technology is used to detect the text portions of the image and correlate them with the standard characters. Often the format of the retailed form is predefined in text form collateral to which the compared characters are input to the final file in text form.

Analysis of Problem:

Before OCR can be used, the source material must be scanned using an optical scanner (and sometimes a specialized circuit board in the PC) to read in the page as a bitmap (a pattern of dots). Software to recognize the images is also required. The character recognition software then processes these scans to differentiate between images and text and determine what letters are represented in the light and dark areas.

Older OCR systems match these images against stored bitmaps based on specific fonts. The hit-or-miss results of such pattern-recognition systems helped establish OCR's reputation for inaccuracy. OCR software can recognize a wide variety of fonts, but handwritten characters and script fonts that mimic handwritten characters that are still problematic, therefore additional help of pattern matching algorithms is required. Developers are taking different approaches to improve script and handwritten characters recognition.

Future scope:

Handwritten characters are one of the biggest challenges for processing paper documents. But for how long? Is it even worth worrying about handwritten as we all use keyboards today?As in

the Handwritten Characters the database is itself increases its knowledge, so where the existing systems have limited knowledge bank(MATLAB) there the Handwritten Characters software is being used.

CONCLUSION:

From the all studies uptill now we have conclude that this software of handwriting characters recognization is being used to reduce the time required for any particular manually inputting data. There are so many organizations in the world that uses the system of manually inputting data, so by using this software this organizations can work easily and fastly. In railway reservation system or like other reservation system this software plays very important role. From all above analysis we have also conclude that this software will be very much easier to use

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