

IMAGE TEXT RECOGNITION SOFTWARE

PROJECT SYNOPSIS
OF MINOR PROJECT

BACHELOR OF TECHNOLOGY
Information Technology

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1 Introduction

This project will help the user to upload there documents and store the extracted texts in the database linked with the images that user can search from through our software .User can copy text through our software and use it anywhere they desire.We will convert out extracted text to .txt file and connect it to the particular image using linked list .

We will extract the text using OCR engine.OCR systems can recognize not only printed text, but also hand-written text, text formatting style, tables, diagrams, and images.

A typical OCR task can be divided into the following sub-tasks:

- Acquiring Images: In this step we convert the images in required digital formats with the help of the user uploading them to the website.
- Pre-processing Images: Once we have the images in the desired format, we have to pre-process the images to assist the system in recognizing the text present in the images.

Front-end will be created using react. React (also known as React.js or ReactJS) is a free and open-source front-end JavaScript library for building user interfaces based on UI components. It is maintained by Meta (formerly Facebook).

For Searching, we will sort and binary search through our data and present the user with a particular image that contains that text.

Nodejs will be used to create server-side connecting with our Front-end .Node.js is an open-source, cross-platform, back-end JavaScript runtime environment that runs on the V8 engine and executes JavaScript code outside a web browser. Node.js lets developers use JavaScript to write command line tools and for server-side scripting—running scripts server-side to produce dynamic web page content before the page is sent to the user’s web browser.

2 Rationale

OCR enables you to find the specific information in your documents that can be copied and pasted for other uses. Unsearchable documents are useless, especially if you have volumes of PDF documents and electronic images containing important data. OCR not only enables you to edit and search your immutable documents but also detects the incorrect or misprinted data in your documents.

OCR significantly reduces the time and money spent on manually entering the data into the computer from scratch. You can simply use the OCR to scan the printed or electronic images containing text and obtain a digitalized form.

3 Objectives

1. Reduce the time it takes to search through the data manually .
2. To reduce human errors in the documents.
3. To save a lot of time and money by reducing the paperwork.
4. To make Immutable Files Search able.

4 Feasibility Study

When you have lots of PDF files and textual electronic images, the information they contain is not searchable and editable. That means you have lots of frozen text. This kind of information affects your ability to search for something specific quickly. The OCR technology enables you to convert that frozen text into machine-readable data so that it is searchable. OCR enables you to find the specific information in your documents that can be copied and pasted.

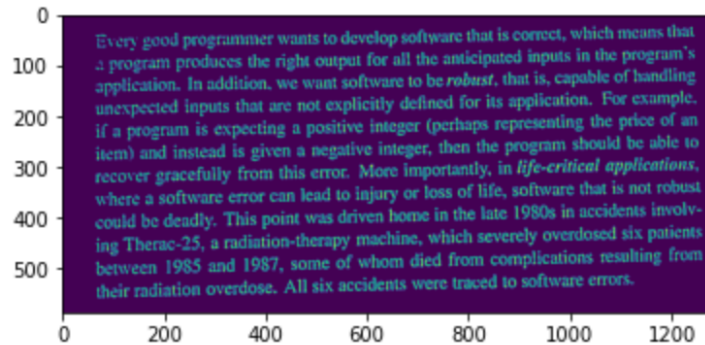
5 Methodology/Planning of work

5.1 Procedure for creating OCR Modal

The packages and libraries required for this task are:

tesseract-ocr, OpenCV, Pandas, NumPy, Matplotlib

1. First we have to get the image that we need to digitize using openCV.
2. Convert the image into binary image i.e., the pixel values in the image will either be 0 or the maximum pixel value.

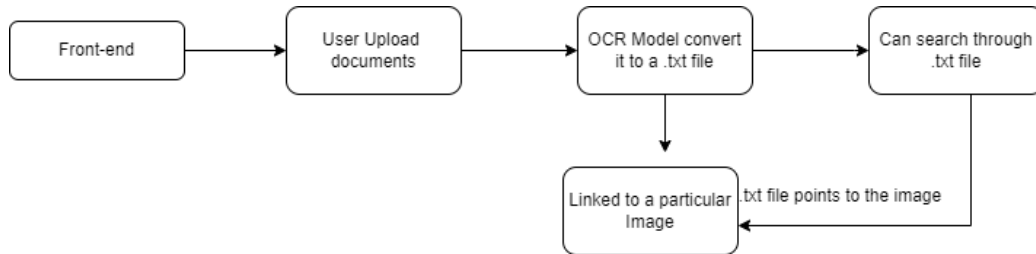


3. separating each line of text into a single line



4. In the end we will use tesseract engine to extract text from image

5.2 Working of Project



6 Facilities Required for Proposed Work

6.1 System Requirement

- Windows 11 or Ubuntu 20
- 4GB RAM
- 512 GB Hard Disk
- Intel dual core i3
- Latest Browser (Chrome/Firefox/Safari)
- Text Editor (VS Code/Sublime)

6.2 Technology Used

- Tesseract engine
- Reactjs
- Nodejs
- python

7 Bibliography

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