Text Search In Image

Introduction

Sometimes, It is difficult to search for a piece of information in an image with multiple text with different size,font,gradient,orientation. Unlike pdfs, we can not auto-search for these content in the image. This Project aims to convert the image into a pdf with copyable text at the same loaction in the image.

Example:

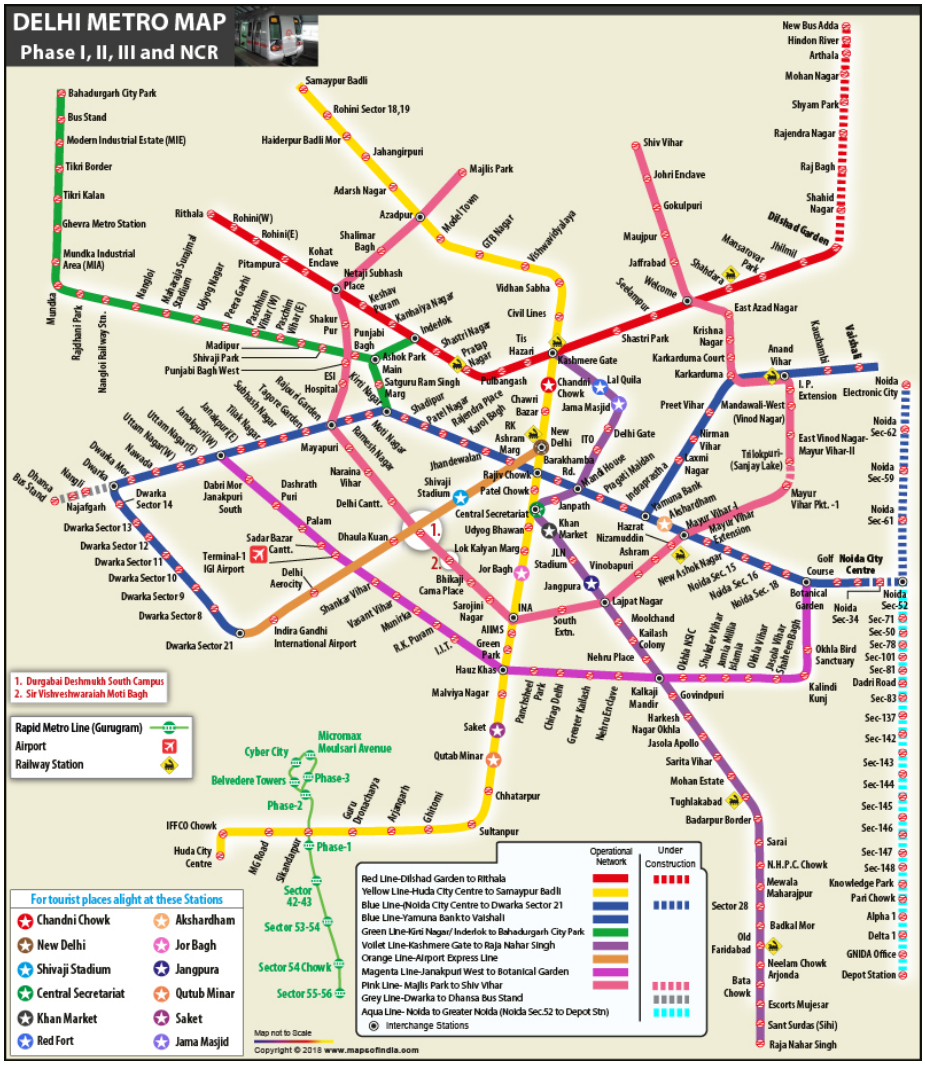

Figure 1: image

This is a Delhi Metro Map. People do strugle to get the desired location in the map.

How is it helpful?

1. **Easy Search:** Searching through image with full of content
2. **Storage:** Documents can be stored in form of images (less space and easy to upload)
3. **Evaluation:** Handwritten text can be converted into pdf for auto-evaluation
4. **Alter Text:** Text font can be changed as per convience of user. Changing color of text helps color blind people to see the text.
5. **Disoriented Text:** Identifying Disoriented or Distorted text.

Milestone

Milstone	Detail
Milestone 0	Increase Image Quality
Milestone 1	Text Extraction
Milestone 2	Create Contour Boxes around Identified Text
Milestone 3	Preprocess extracted Contour boxes
Milestone 4	OCR on Extracted image
Milestone 5	Create Similar Image With no Text
Milestone 6	Convert the Image from Milestone 5 into PDF
Milestone 7	Write extracted text on the pdf with correct orientation

Implementation

1. **Milestone 0**
    1. **Python PIL** Library allow to increase the dpi of the image
2. **Milestone 1**
    1. **SWT (Stroke Width Transformation)** : http://www.math.tau.ac.il/~turkel/imagepapers/text_d
3. **Milestone 2**
    1.
4. **Milestone 3**
    1.
5. **Milestone 4**
    1. **Tesseract OCR**
6. **Milestone 5**

    1. **Python PIL** Library
7. **Milestone 6**
    1. Mask the extracted text image in the original image
8. **Milestone 7**
    1.

Deadline

Date	Event
4 August	Preparing Dataset
5 August	Milestone 0
15 August	Milestone 1
20 August	Milestone 2
31 August	Milestone 3
10 September	Do the left-over work
12 September	Milestone 4
18 September	Milestone 5
21 September	Milestone 6
25 September	Milestone 7
30 September	Do the left-over Work
5 October	Testing
10 October	Documentation

Resources Required

1. Subscription to medium and IEEE xplore to read more informational Blogs

Future Scope

1. Identification different language images
2. Mobile API to use the tool with ease

Our Team

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