Non Cursive Handwritten Text Recognition

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ABSTRACT

- Offline non cursive handwritten text recognition
- Semester Target: Segment handwritten document to individual characters

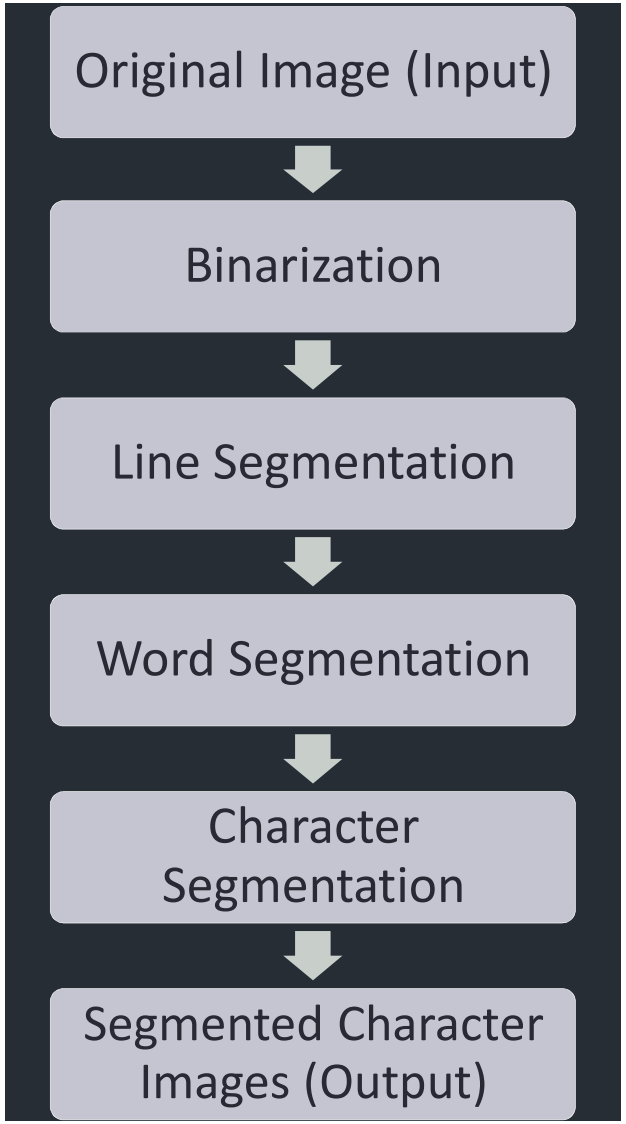
PROJECT OVERVIEW

- Input: Scanned image in jpg/png/tiff format
- Output: Folders containing segmented lines, words and characters

SALIENT FEATURES

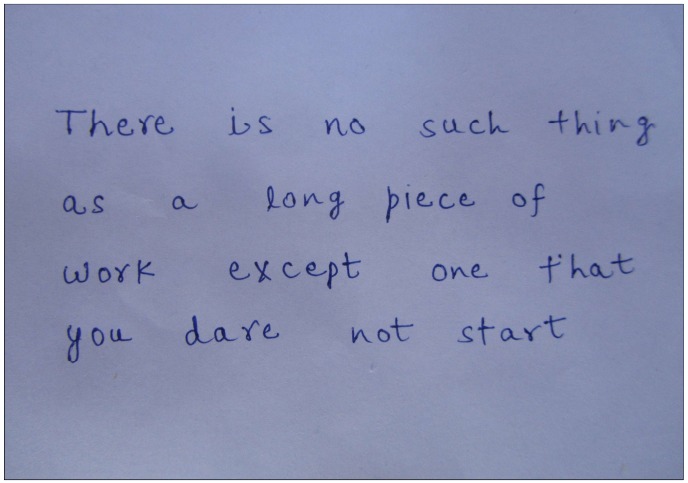
- Can process images from smartphones
- Can segment characters even when gap is very small

FLOW CHART

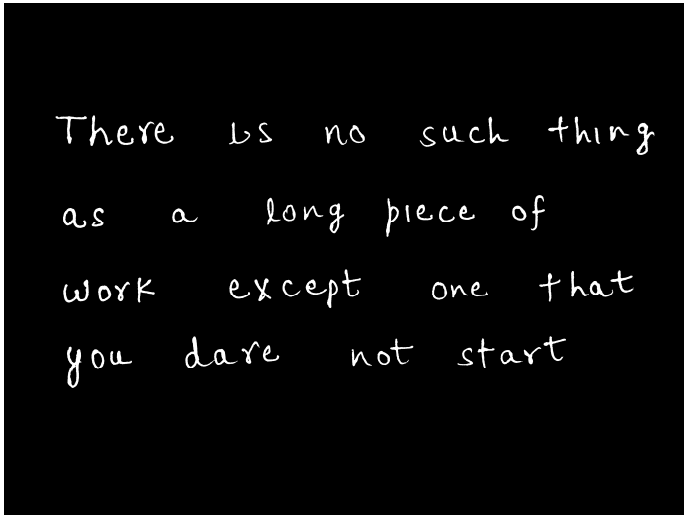


METHODOLOGY

- ORIGINAL IMAGE



- BINARIZED IMAGE



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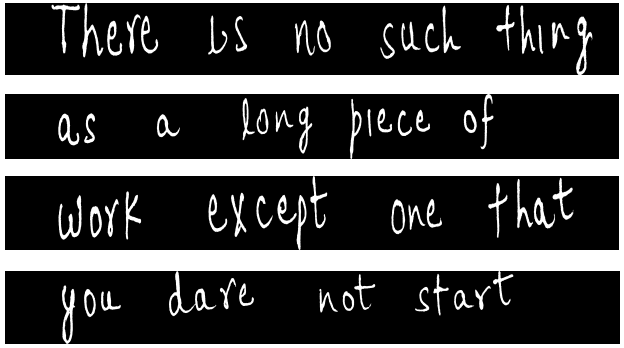
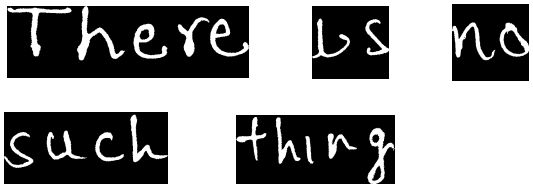
METHODOLOGY - CONTINUED

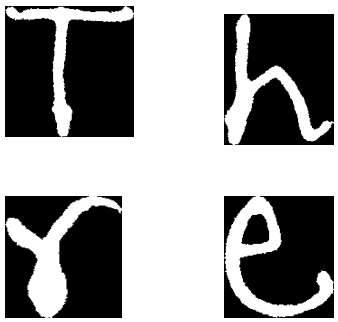
- LINE SEGMENTATION



- WORD SEGMENTATION (FIRST LINE)

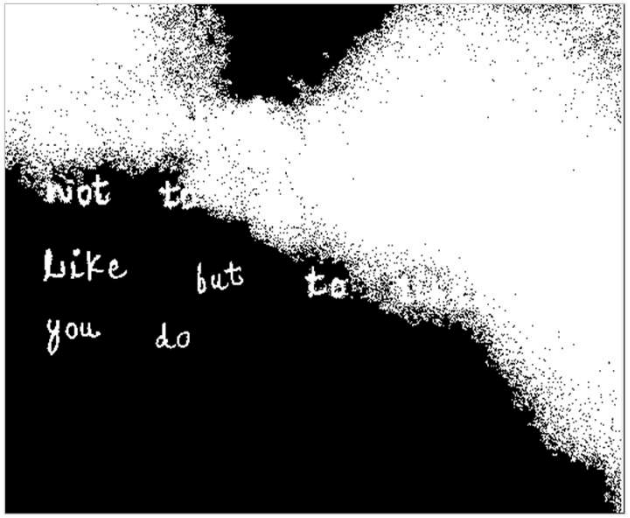


- CHARACTER SEGMENTATION (WORD)

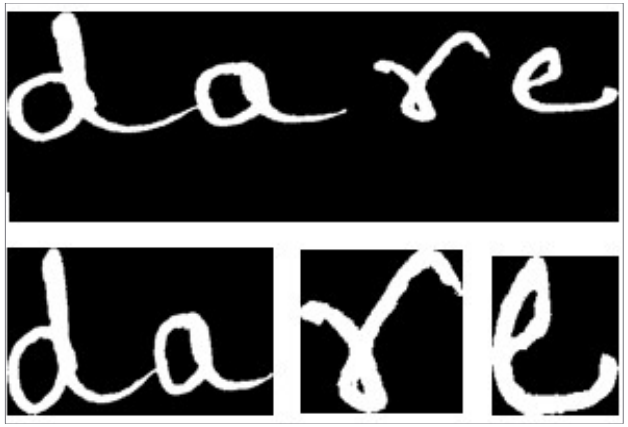


EXPERIMENTS

- HIGH LEVEL OF NOISE



- CHARACTERS TOUCHING EACH OTHER



ASSUMPTIONS

- Low noise, evenly lit image with high pixel density
- Characters do not touch each other
- Gaps between words are much larger than gap between characters
- Dot symbols over letters ‘i’ and ‘j’ are not considered

CONCLUSION

- Images with less noise and more pixel density performed better
- Local Binarization works better than global Binarization

REFERENCES

- **1. N. Nain and S. Panwar, *Handwritten text recognition system based on neural network,* Academy Publish Journal of Computer and Information Technology, Vol.2, No. 2, Pages 88-97, 2012.**
- ***2.* G. Louloudis, B. Gatos, I. Pratikakis, and C. Halatsis , *Text Line and Word Segmentation of Handwritten Documents*, Pattern Recognition, Vol.41, No. 12, Pages 3758-3772, 2008.**