

Text Segmentation

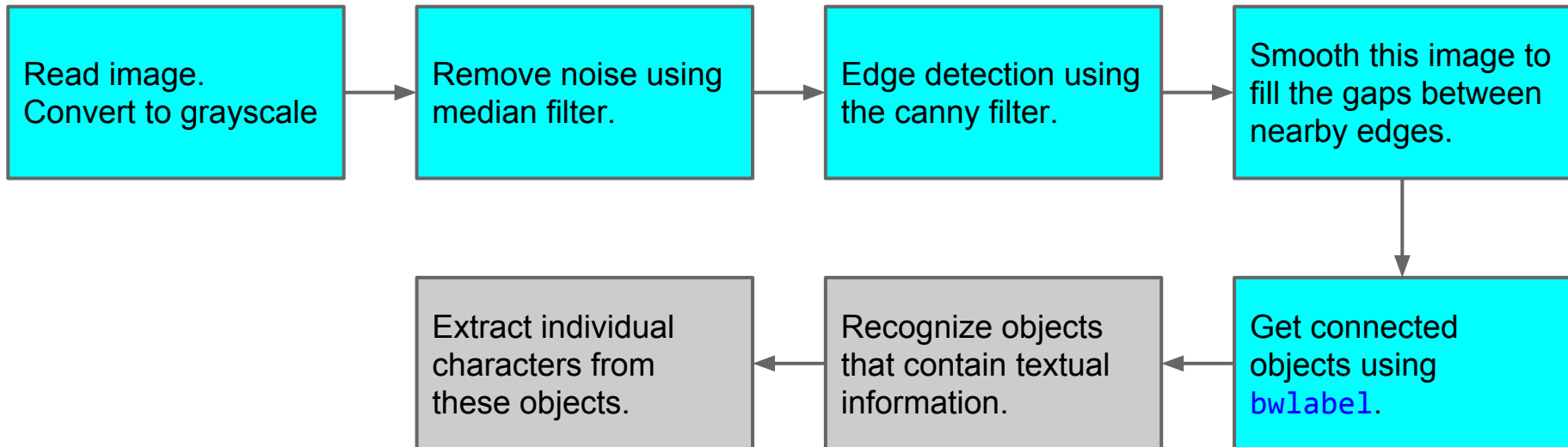
Devesh Rai and Ronit Galani

Goal

To extract individual text characters from the image.

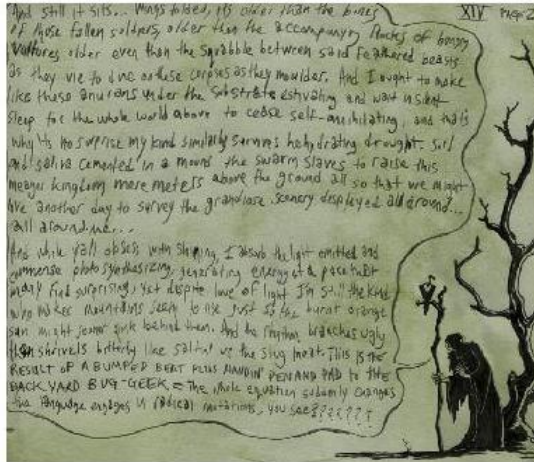
- The image may possibly contain other information such as pictures, sketches etc.
- The text may possibly be handwritten.
- Touching characters, kerning, low contrast etc.

Algorithm

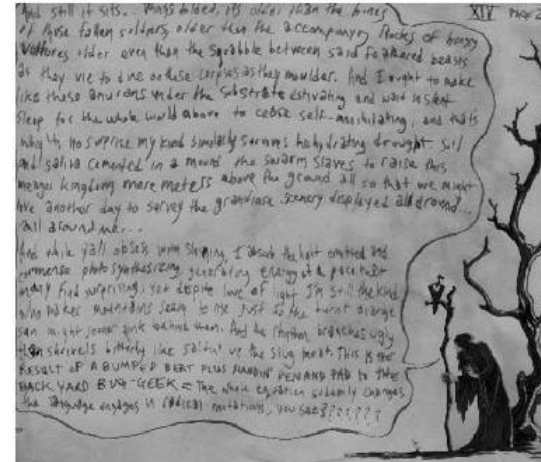


Algorithm run for Document_3Handprint.jpg

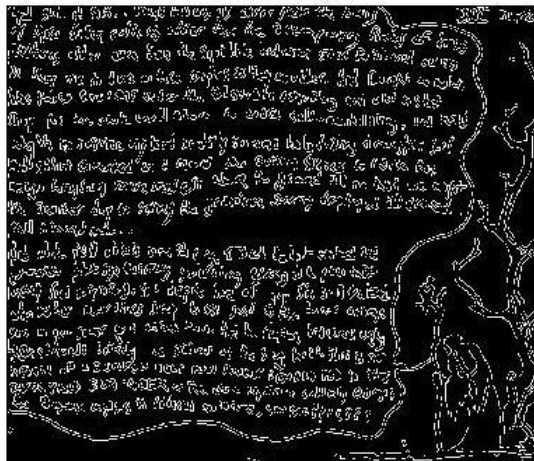
1. Original Image



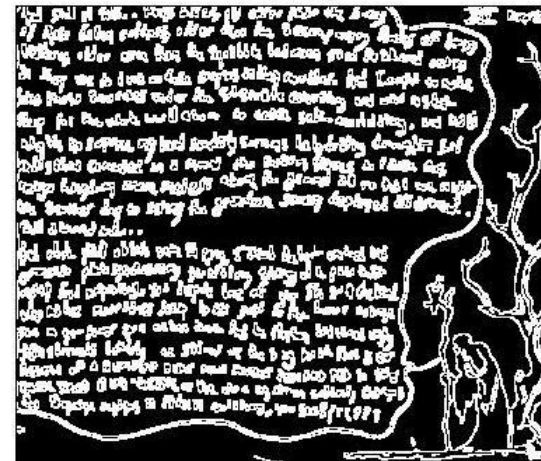
2. Converting to grayscale and applying median filter



3. Detected edges

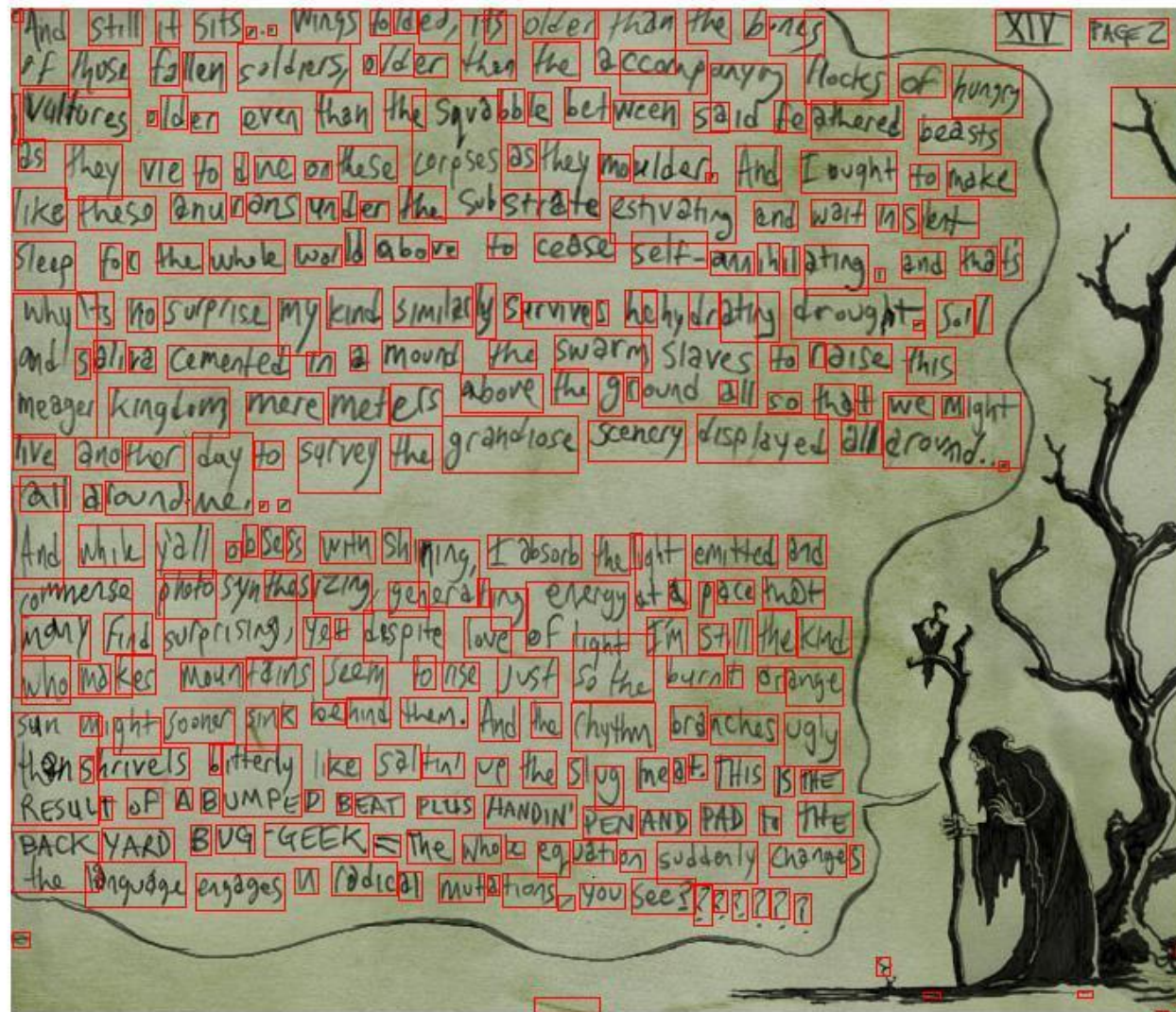


4. Smoothing



Output for Document_3Handprint.jpg

Results - Document-3Handprint.jpg



Output for Document_Mansion.jpg

Results - Document-Mansion.jpg

Executive Mansion.
Washington, 186.

Now some and seven years ago our fathers brought forth, upon this continent, a new relation, concerning liberty, and dedicated to the proposition that all men are created equal.

Now we are engaged in a great civil war, testing whether that nation, or any nation so conceived, and so dedicated, can long endure. We are met on a great battle-field of that war. We have come to dedicate a portion of it, as a final resting place for those who here, that the nation might live. This we may, in all propriety do. But, in a larger sense, we cannot dedicate—we cannot consecrate—we cannot hallow, this ground—the brave men, living and dead, who struggled here, have hallowed it, far above our poor power to add or detract. The world will little note, nor long remember what we say here, while it can never forget what they did here.

It is rather for us, the living, to show here,

Output for Document_Mugshot.jpg

Results - Document-Mugshot.jpg



A black and white mugshot of a man with dark, curly hair, wearing a suit and tie. He is shown from the chest up, facing forward. The image is annotated with numerous small red squares and rectangles, likely indicating areas of interest or damage.

Name **MUIR Frederick Benedict** L.P. No. **1216/32**

Aliases

Born **1908** Trade **Labourer** Comp. **fresh**

Build **Prop.** Eyes **blue** Ht. **5'5"** Hair **brown**

Marks

Penalties

M.O. etc. **Public Housebreaking, Shopbreaking, Warehousebreaking.**

Breaks window at rear of premises.

Associates **355, 1094, 204, 462.**

Output for Document_Tomhorn.jpg

Results - Document-Tomhorn.jpg

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vision early in the morning.

TOM HORN, SCOUT, GAME TO THE END

Famous Indian Fighter, Hanged for Murder, Helps Adjust Noose About His Own Neck—One of Geronimo's Captors.

Cheyenne, Wyo., Nov. 20.—"I die in
minutes. I didn't kill Willie Nickell. I
never made an admission, and all swore
to lies."

Just before he was hanged to-day Tom
Horn, scout, Indian fighter and cattle
detective, left this note to his stanch

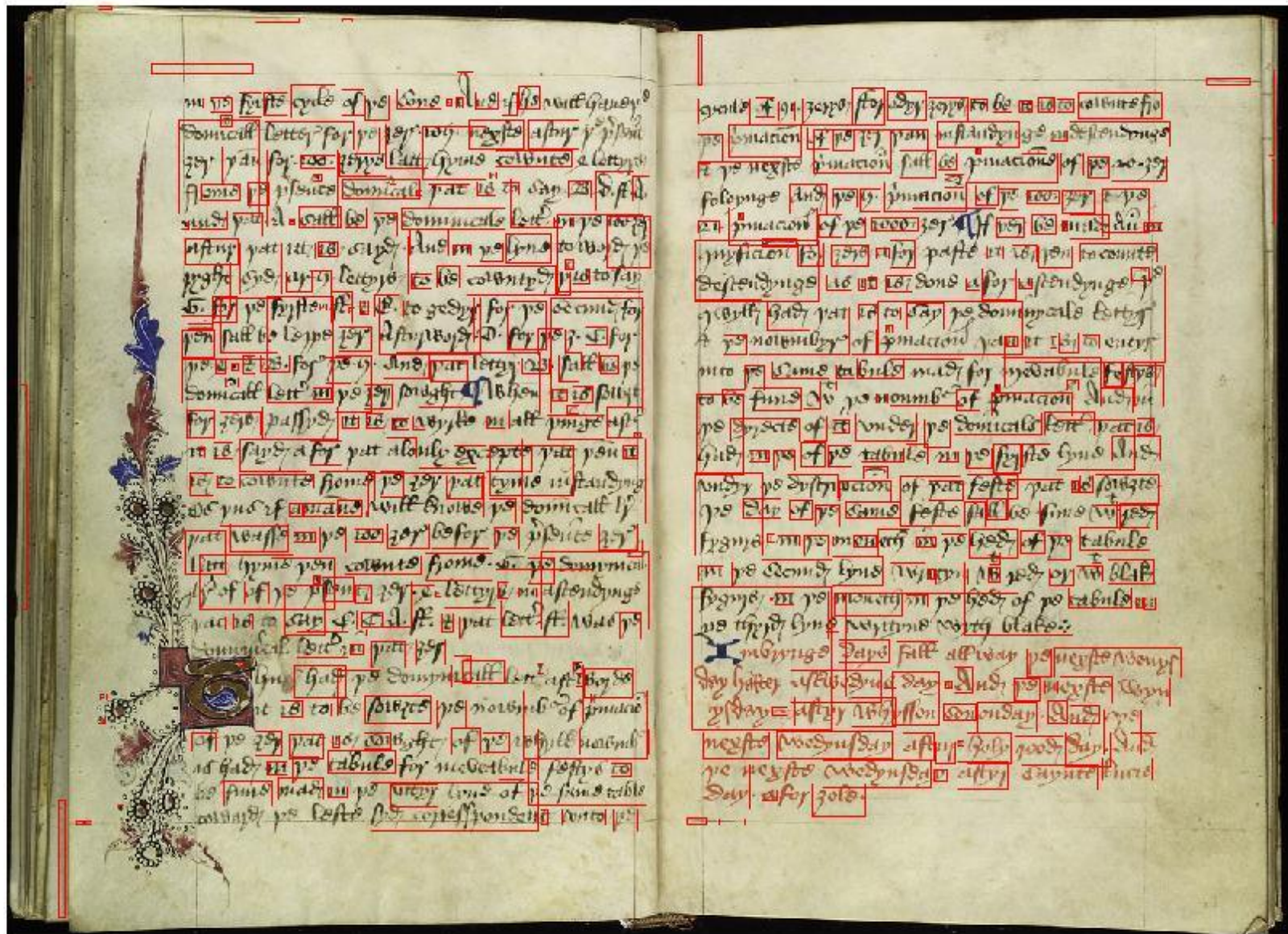
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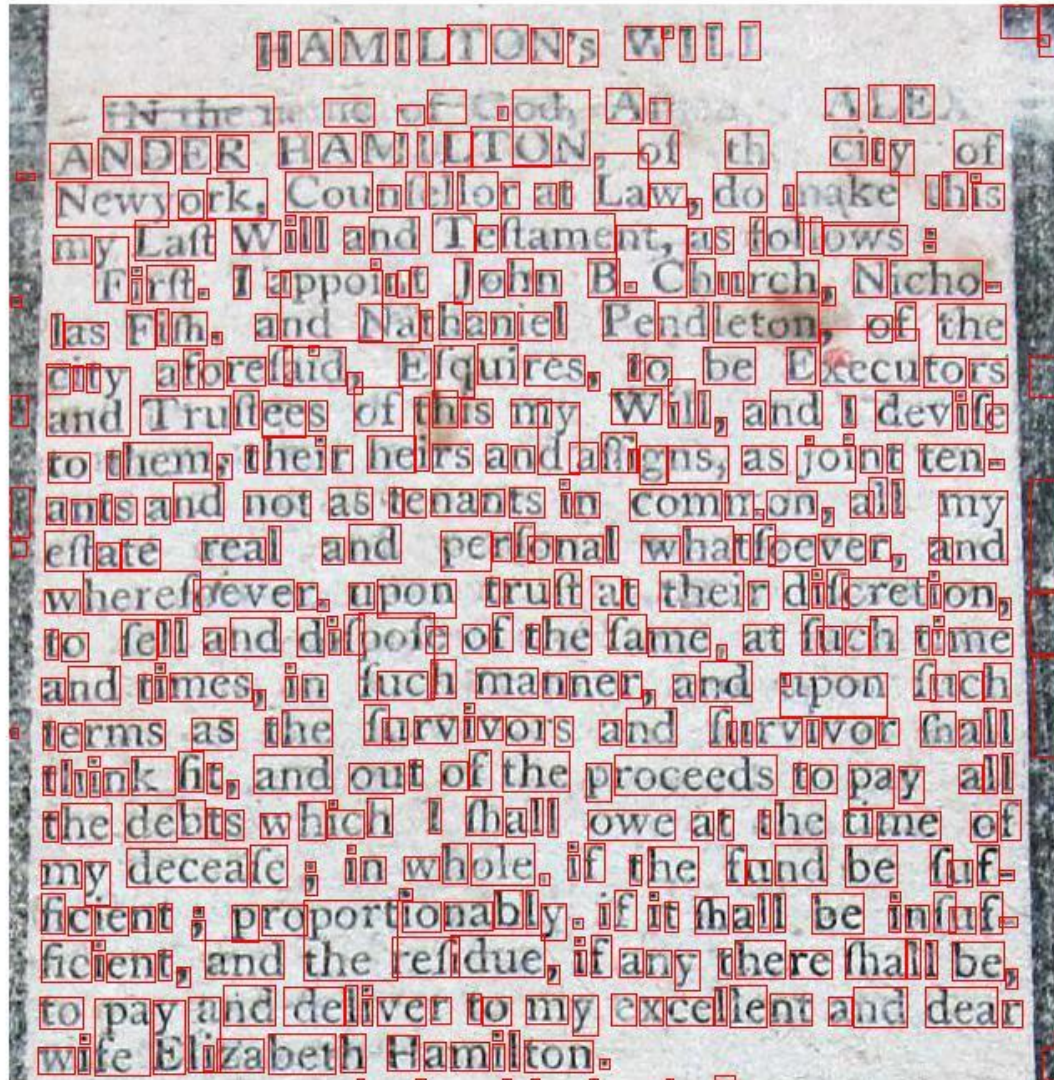
Output for Document_voynich_pg-39-40.jpg

Results - Document-voynich-pg-39-40.jpg



Output for Document_Will.jpg

Results - Document-Will.jpg



HAMILTON'S Will

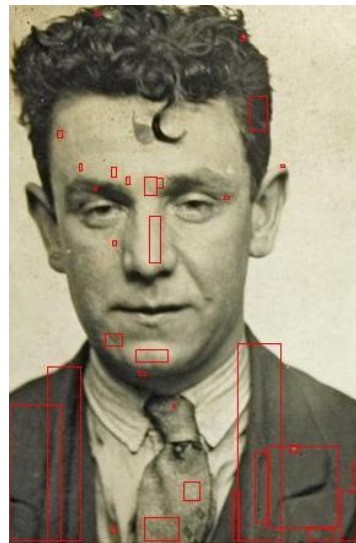
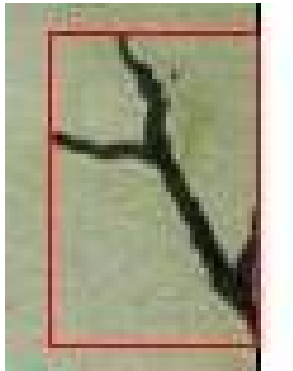
IN the name of God, AMEN.

ALEXANDER HAMILTON, of the city of New York, Counsellor at Law, do make this my Last Will and Testament, as follows :

First. I appoint John B. Church, Nicholas Elm, and Nathaniel Pendleton, of the city aforesaid, Esquires, to be Executors and Trustees of this my Will, and I devise to them, their heirs and assigns, as joint tenants and not as tenants in common, all my estate real and personal whatsoever, and wheresoever, upon trust at their discretion, to sell and dispose of the same, at such time and times, in such manner, and upon such terms as the survivors and survivor shall think fit, and out of the proceeds to pay all the debts which I shall owe at the time of my decease ; in whole, if the fund be sufficient ; proportionably, if it shall be insufficient, and the residue, if any there shall be, to pay and deliver to my excellent and dear wife Elizabeth Hamilton.

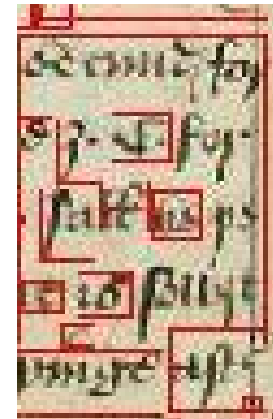
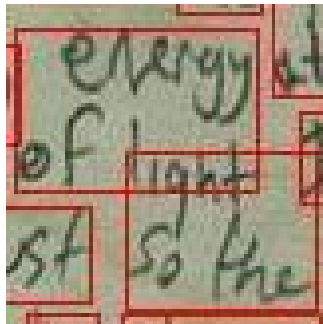
Things to do

Discard objects with no textual information.



Things to do

Identify overlapping objects.



May lead to multiple detection of same characters.

Things to do

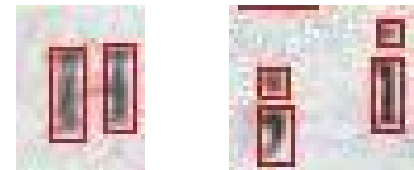
Extracting individual characters.



Single-line



Multi-line



Broken characters

Questions?