Pixel.js: Web-based Pixel Classification Correction Platform for Ground Truth Creation

Zeyad Saleh, Ké Zhang
School of Electrical and Computer Engineering
McGill University
Montréal, Canada

https://github.com/DDMAL/Pixel.js

August 7, 2017

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Design &
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Platform for Ground Truth Creation
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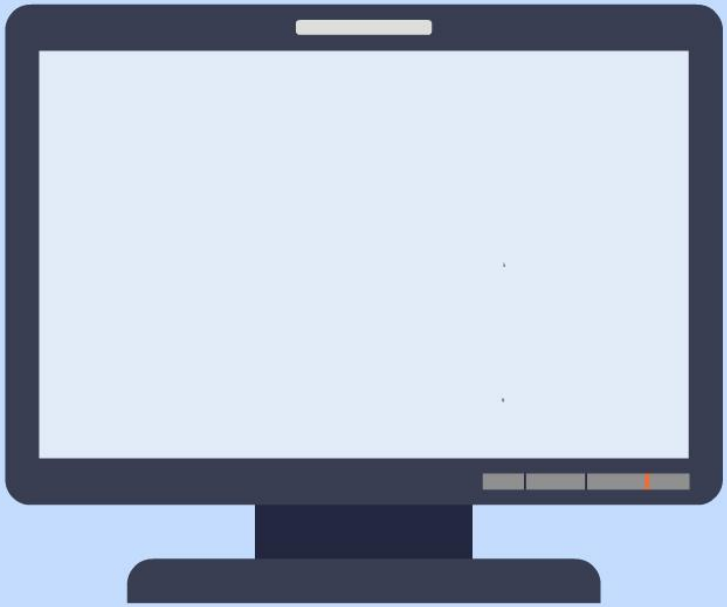
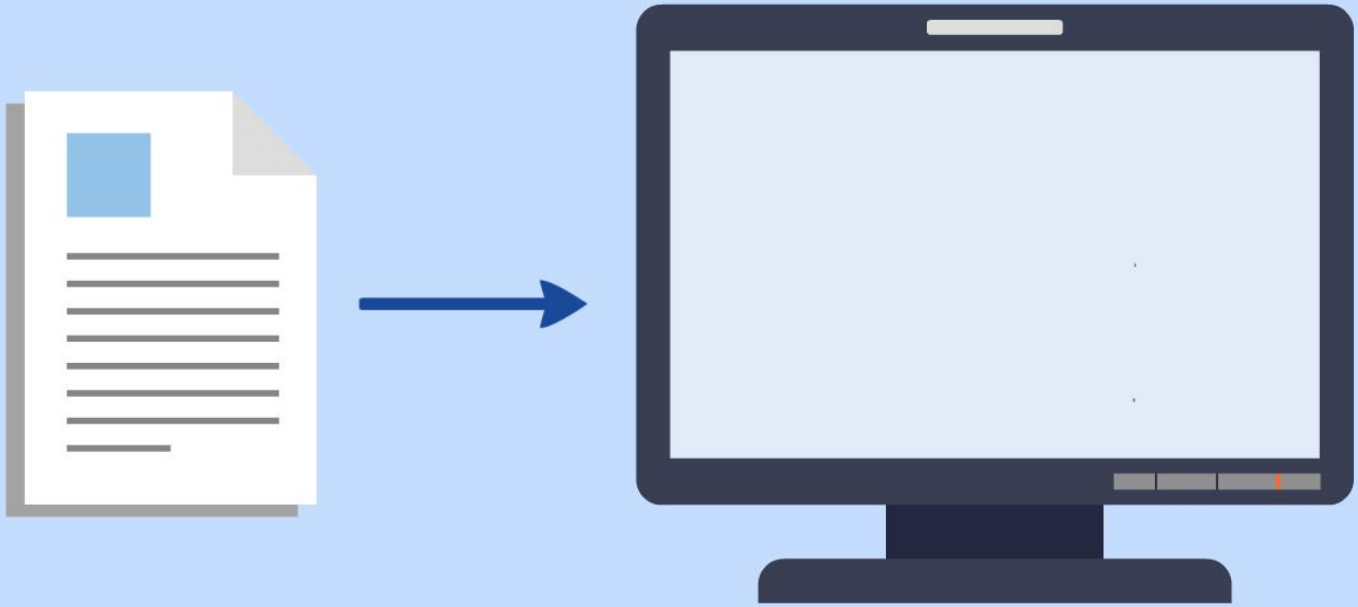
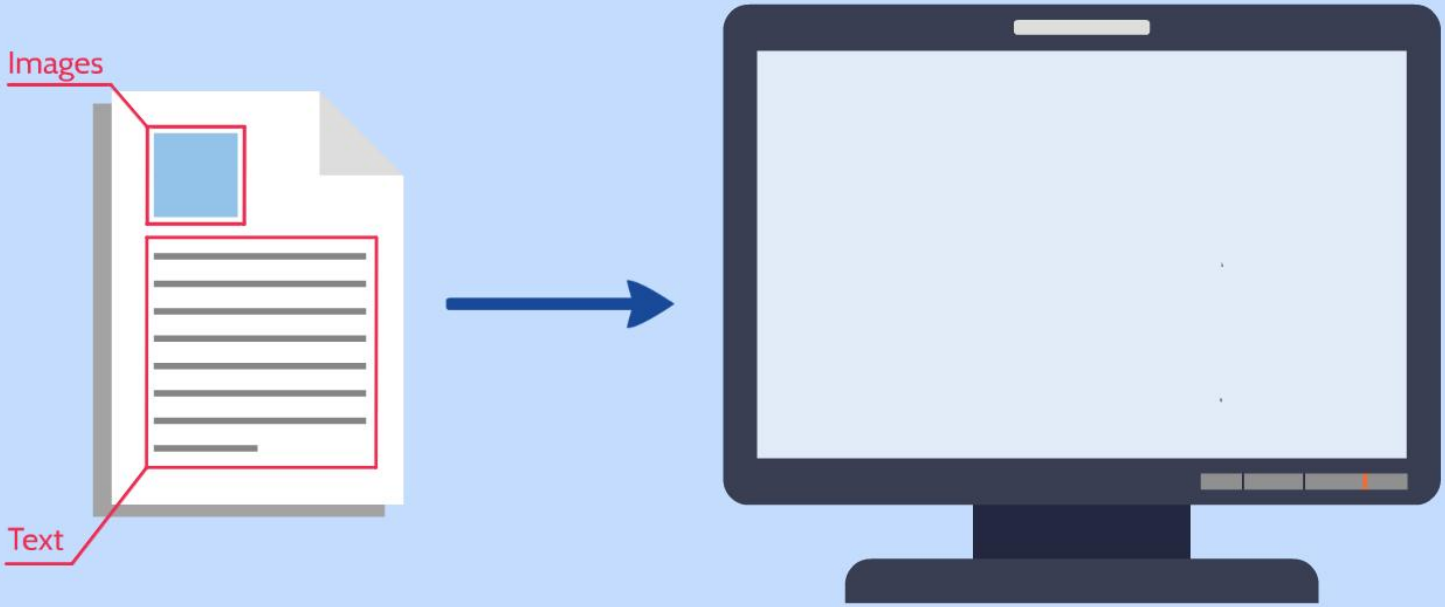




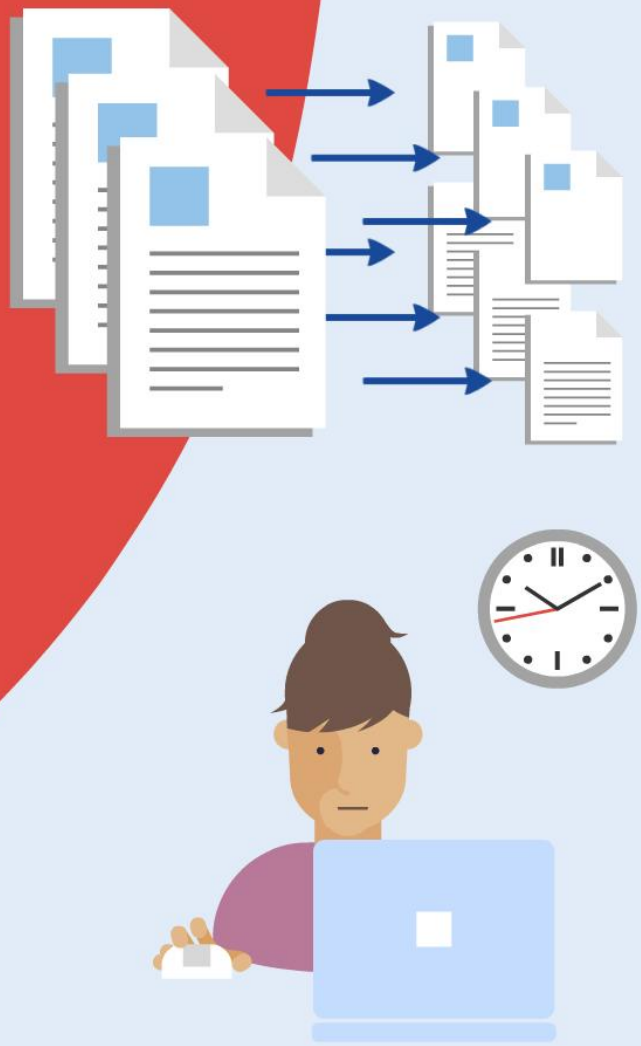

Images
Text

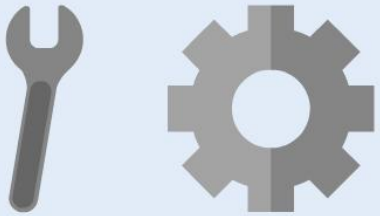
Images
Text

Images
Text

GROUND TRUTH

GROUND TRUTH





1. Layering and Graphics Editing
2. Web-based
3. Pixel-level Classification and Correction
4. Standalone / Workflow Process

Design & Implementation

1 Ease of use

2 Accessibility

3 Efficiency

$$30M \frac{px}{image} \times 80 \frac{images}{collection} \times 32 \frac{bits}{px} \div 8 \frac{bits}{byte}$$

$$\sim 10GB/collection$$

diva.js

Hankinson, Andrew, Wendy Liu, Laurent Pugin, and Ichiro Fujinaga. “Diva.js: A continuous document viewing interface.” Code4Lib Journal 14, no. 9 (2011).

USER SIDE

WHAT CAN PIXEL.JS DO?

1. Toolbox
2. Layers
3. Import & Export

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Demo
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14

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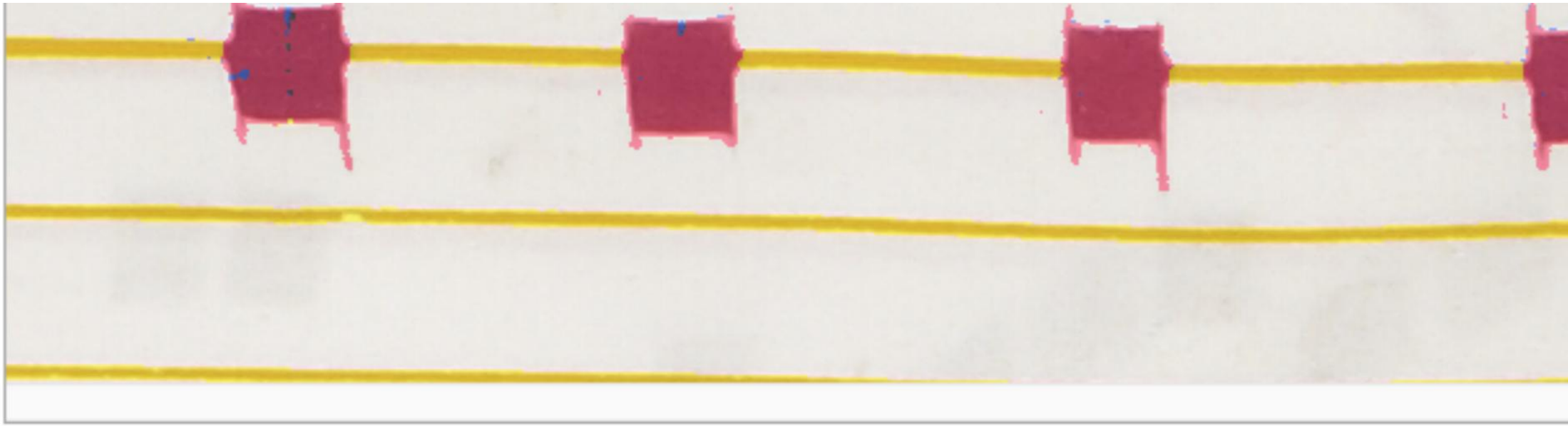
17



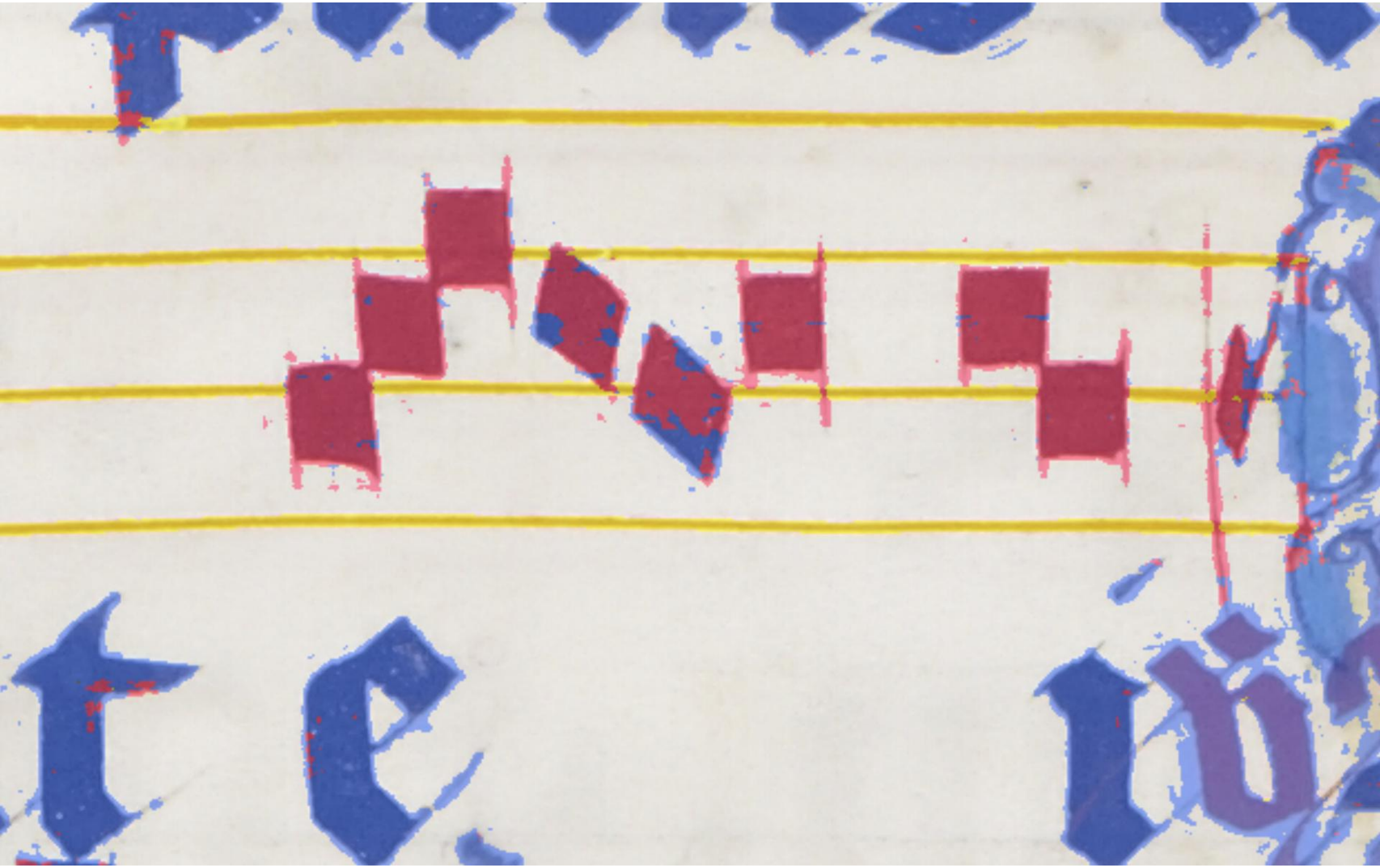
Undo Redo

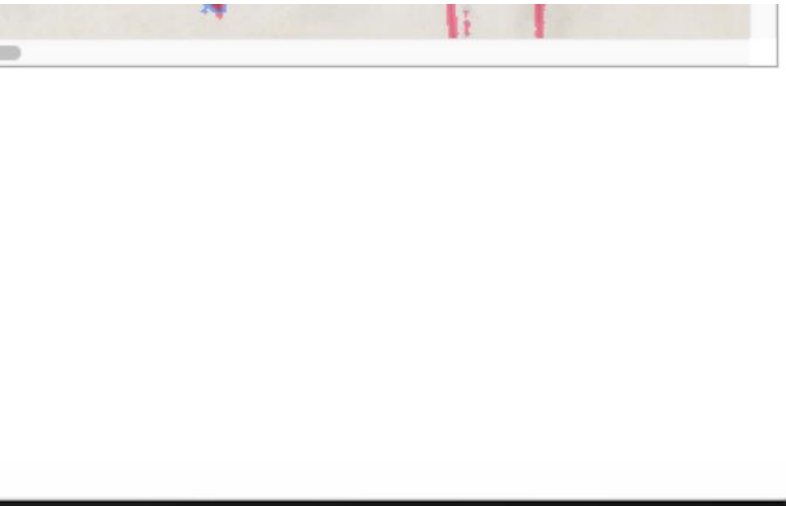
Layer 3
Layer 2
Layer 1
Background

brush rectangle grab eraser select

14

Export as CSV Export as highlights PNG Export as image Data PNG Choose File





Demo

Setup

- Salzinnes manuscript
- Page 3-Recto
- Layers: Output of Pixel-wise classification Method
- Show general functionalities

Results

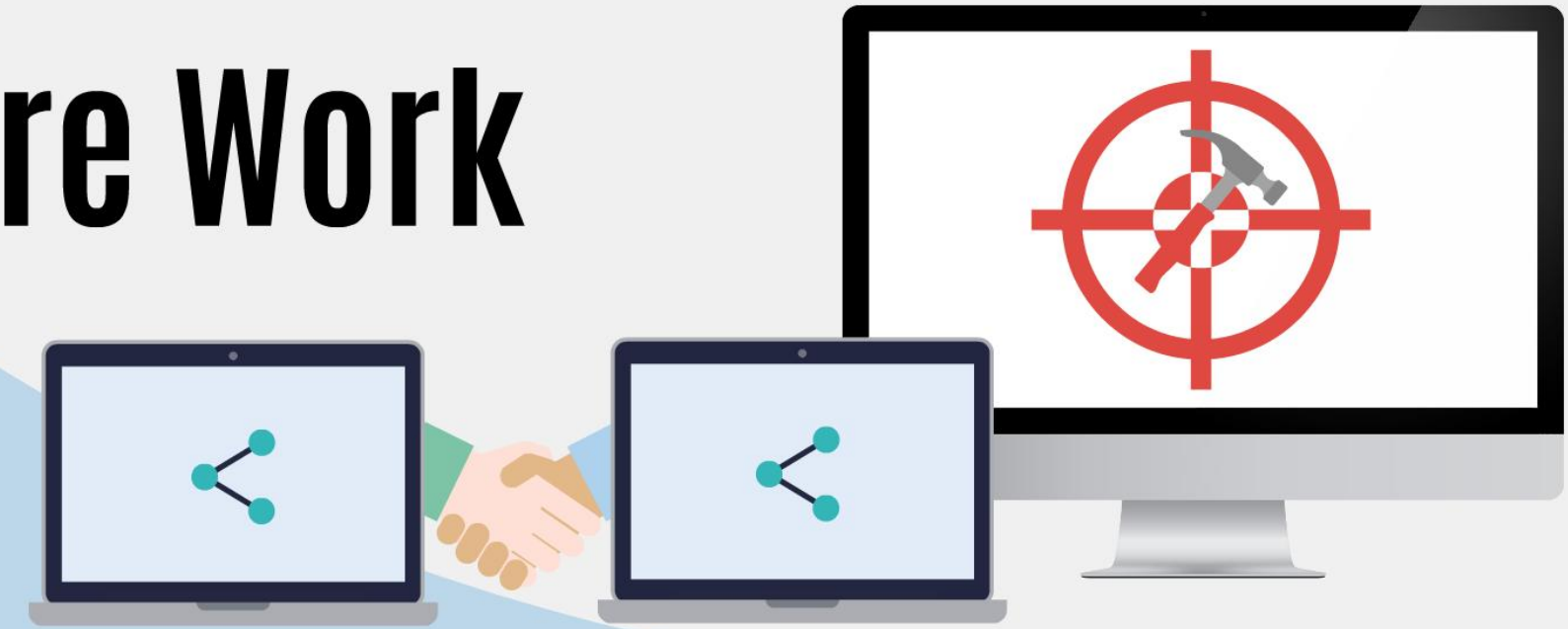
30 → 18

hrs/page hrs/page

- 40% reduction in production time
- "*I have found Pixel to be quite user friendly[...], it's easy to use because most of the functions are very intuitive*" - Vi-An Tran

Conclusion

Future Work



Summary

- Graphics editing platform for pixel-level classification correction
- Web-based
- Open Source: https://github.com/DDMAL/Pixel.js
- Standalone or integrated in complex workflows

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WESTGRID