

Lib Indexer

Indexing books with unique labels in library shelves

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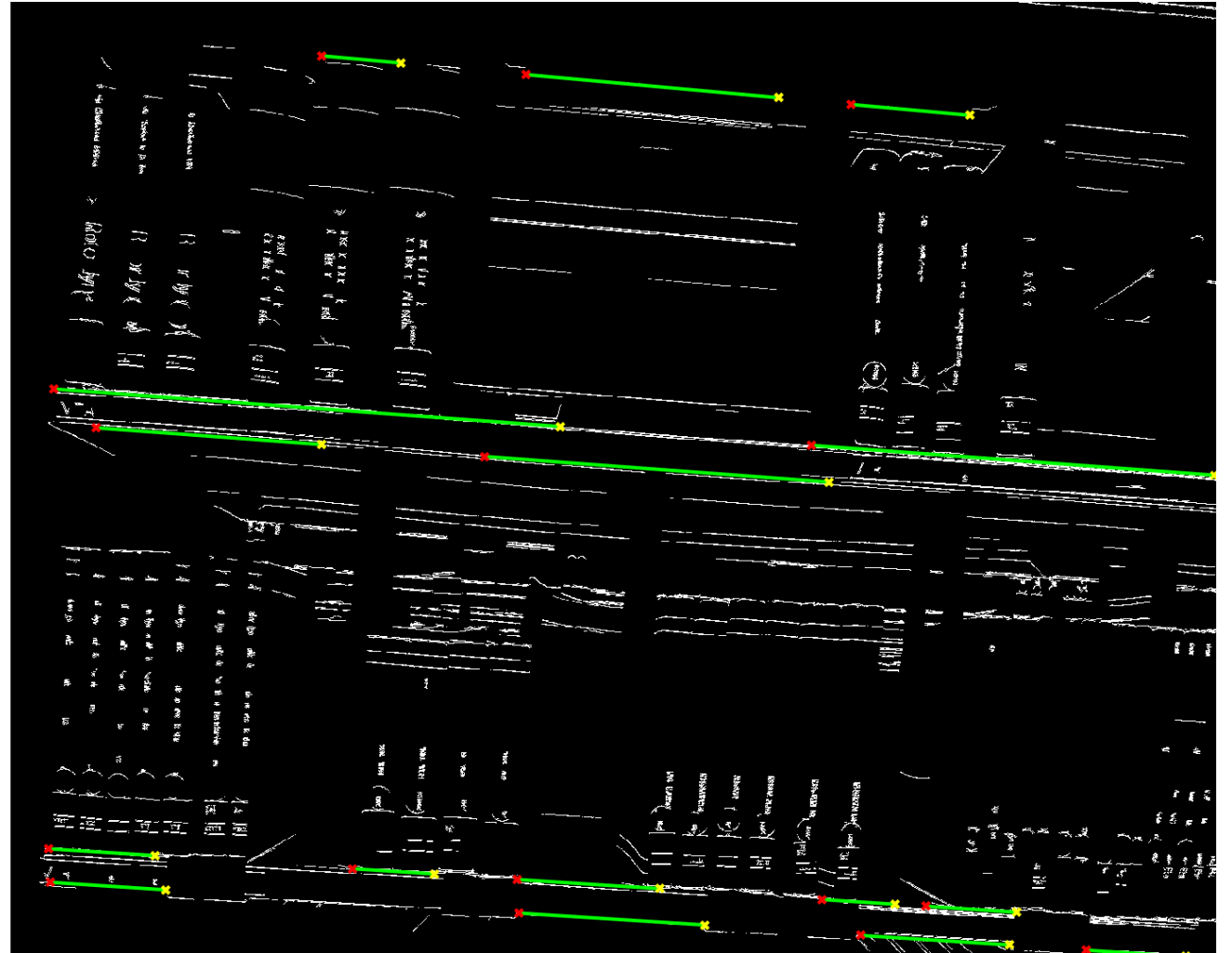
Input

- Image of bookshelf
- Books may not be tilted
- Have a unique TU-bib label
- Image must be sharp
- Image must have readable labels



Detect Shelves

- Find shelves with Hough Transform
- Shelf boards may not be tilted by more than 30°
- Perspective correction
- TBD: Relative size of a single shelf for label detection



Label detection

- TBD: Harris corner detector
- Integral imaging for labels (brightness / darkness ratio)
- Min/max-label size
- TBI: Heuristics to eliminate duplicates



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Label-coordinates

- Put all label candidates into a custom coordinate system

Optical Character Recognition

- Preprocessing
 - Noise removal
 - Upscale label
 - Straighten image
 - Remove lines
- Template matching
 - 26 uppercase letters
 - 10 digits





Thanks for listening