Using AI to Add Tables of Contents to Cataloging Records

AUTHORS

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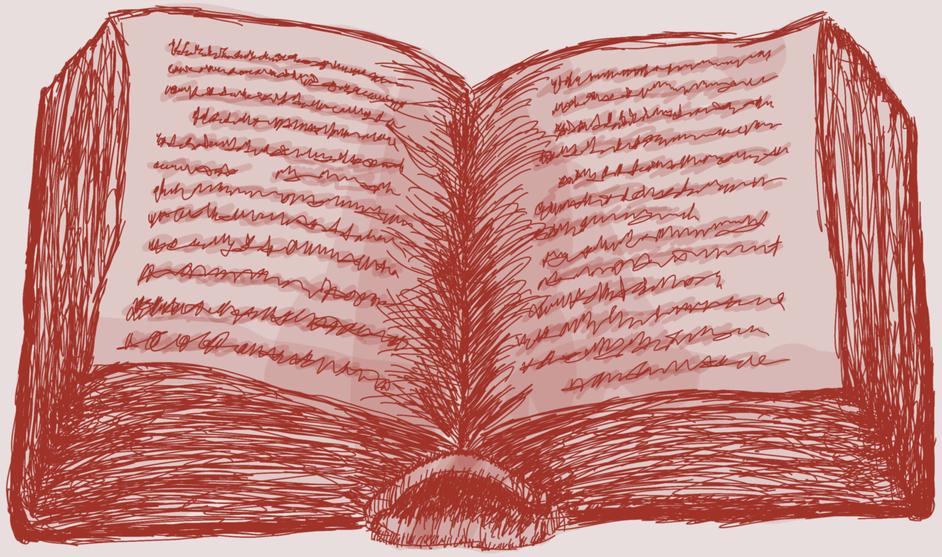
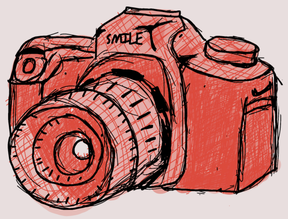


INTRODUCTION

Table of Contents and Summary notes in the 505 and 520 fields, respectively, are optionally included in cataloging records. Transcribing the notes by hand can be quite time-intensive, particularly if lengthy or written in another language. However, Summary and Table of Contents notes bear fundamental contextual information for patrons, enhance discoverability in keyword searches, and increase important access points. Table of Contents information is generally not findable online, so adding this note can add considerable value for all users.

We experimented with the most efficient way to scan, perform Optical Character Recognition (OCR), and AI format Table of Contents pages for inclusion in the 505 fields of catalog records. We tested and iteratively optimized this process with a few variables: different AI tools, workflows, and prompt verbiage.

PROCESS



Workflow

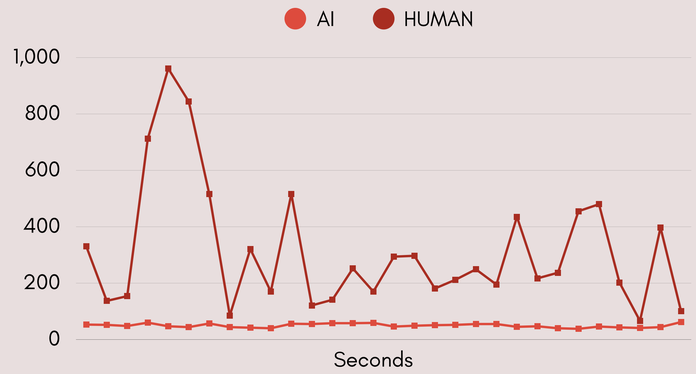
1. Use a cell phone to quickly take a picture of a book's Table of Contents
2. Upload the image(s) to an AI tool with a formulated prompt
3. Receive a formatted 505 field contents note to paste in the cataloging record

Our testing began with also using Google Lens to complete OCR on the text and then copying that text into the AI tool, but AI tools have since advanced and all major platforms allow an attachment and automatically OCR upon upload.

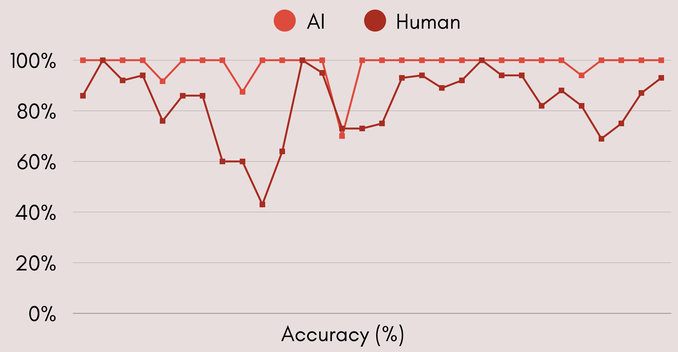
Proficient prompt engineering is required to construct an AI query that meets the task at hand. Initially, we utilized a basic prompt that worked quite well overall but would still lead to undesirable issues, such as incorrect capitalization and punctuation, inclusion of page numbers, etc. We used these errors to finetune a large, very specific prompt (available at the QR code) to undertake our tests.

Our pre-tests utilized several different AI vendors, namely DeepSeek, Copilot, and ChatGPT as well as an AI agent in Copilot to test if there were major differences between their outputs. An AI agent can be trained with data to be a permanent expert on specific topics, including library cataloging and constructing 505 notes. Since there were no significant differences, our main tests used only the Copilot agent with the above prompt.

After optimizing the process, we tested the creation of 505 fields for 30 books using the AI workflow and prompt above and compared it, in time and accuracy, to the creation of 505 fields from the same books, but instead hand-typed. Both received no review for errors in the time test but were reviewed for accuracy after completed.



The graph above depicts the time comparison between the 30 man-made and 30 AI-made 505 field records. AI was consistently faster, with time-savings particularly noteworthy for long Tables of Contents and those in other languages with diacritics. The table below shows the accuracy comparison for the same 30 test records.



RESULTS

Overall, using AI to create the 505 notes was much quicker and more accurate than hand- transcribing them. In the comparison test, AI provided, on average, a 98% accuracy rating versus our man-made 83%. AI also saved an average of 4 minutes per book. There were occasions when hallucinations would happen, albeit rarely.

CONCLUSION

AI vastly outperformed humans in the making of 505 records. It is significantly faster and more accurate overall. A cataloger should review records for mistakes in both hand-transcribed and AI-created content. The Program of Cooperative Cataloging encourages adding a note about AI-created content in the record unless it is completely reviewed by a cataloger.

This process represents an easy avenue to utilize AI in cataloging that will add value and increase efficiency. There is much room for growth in the use of AI in automating cataloging processes.