Mobile Book & Audiobook Syncing  
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Motivation

- Imagine switching seamlessly from reading a book to listening to an audio book in the car without losing your place!
- Avid readers can access their media with Ebooks, audio books and paperbacks. We aim to provide a convenient means of syncing these formats. Users can switch from one to the other without losing the place and they can continue enjoying the book while doing their daily jobs.

Algorithm Pipeline

Pre-processing
- Image binarization
- Extracting relevant part of document image
- Average letter width-height estimation

Box of words
- Morphological dilation and erosion
- Deriving the bounding boxes of the words

BWC (Brick Wall Coding)
- Determining below and above horizontally overlapping words
- Extracting feature vectors for query image

Retrieval
- Extracted features for every image in the database
- Matching with hash look-up and scoring
- Geometric verification

Database

Experimental Results

Test images:
- L2 Norm Accuracy:
  - (without geometrical verification)
  - BWC: 40%
  - Zig-zag: 65%

Training images:
- Android app implemented on the phone:

Future Work & References

- Extending the database with more than one book
- Retrieval algorithms for larger databases; hash tables, decision trees