ResearchSherlock

Toward a Seamless Integration of Printed Books into the Digital Academic Workflow

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1 Introduction and goals

With the increase of digital information practices (e.g. online search, desktop publishing, electronic reference management, etc.) in the academic context, printed books are sometimes cumbersome to integrate into the digital workflow. We present *ResearchSherlock*, an Android app that allows the user to quickly gather bibliographic information for a printed book by scanning its shelfmark or ISBN. The application also provides recommenddations for thematically related books, to promote the discovery of other relevant books that are available in the local library.

2 Core functions and implementation details

ResearchSherlock is written in Java and is available for Android devices. All data is stored locally on the mobile device, in an SQLite database. *ResearchSherlock* requires an Internet connection, as it makes use of a number

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of web services and APIs. In its current implementation, *ResearchSherlock* is a prototype that works with books from the *University Library of Regensburg*. In the following we describe core functions and implementation details (cf. fig. 1).

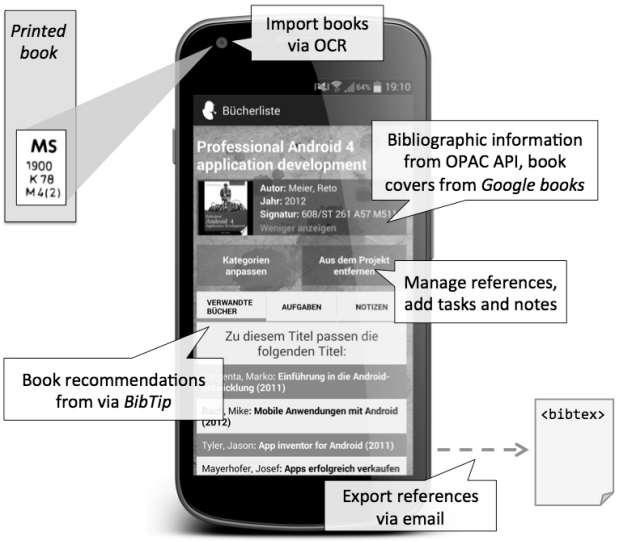

Figure 1. Screenshot of ResearchSherlock and core functions.

Import books via OCR

ResearchSherlock allows the user to store bibliographic data of printed books in a mobile application. Books can be imported into the app by scanning the book's shelfmark, its ISBN (*international standard book number*) or BV ("*Bestandsverzeichnis*") number. The scanning function utilizes the OCR (*optical character recognition*) service available from *Google Drive*[1]. The service processes an image and returns a text string as a result. We parse the returned string to make sure that it only contains valid characters of the actual shelfmark, ISBN or BV. In case the OCR service does not work, the user may also enter the ISBN manually to import a book.

1 https://support.google.com/drive/answer/176692?hl=en <21.12.2014>

Collect bibliographic information

Once the book has been imported, bibliographic information is collected from the OPAC (*online public access catalog*) API[2]. Book covers are acquired from *Google books*[3]. Via the *bibtip*[4] service, it is also possible to get recommendations for other relevant books.

Manage and export references

In *ResearchSherlock*, users can create custom bibliographies and add digital notes or tasks to specific books. Eventually, bibliographic information of any book can be exported from *ResearchSherlock* in BibTeX format.

2 The OPAC API is kindly provided by the University Library of Regensburg.

3 https://books.google.com/ (last accessed on December 21, 2014)

4 http://www.bibtip.com/ (last accessed on December 21, 2014)

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- ResearchSherlock allows the user to store bibliographic data of printed and digital books in a mobile application. Printed books can be imported into the app by scanning their shelfmarks or their ISBN via the camera of the smartphone. The scanning function utilizes the OCR service available from Google Drive.
- Via integration of the BibTip service it is also possible to get recommendations for other relevant books.
- ResearchSherlock also can be used to organize books and topics, manage writing tasks and export bibliographic data (in general Bibtex or APA format).

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