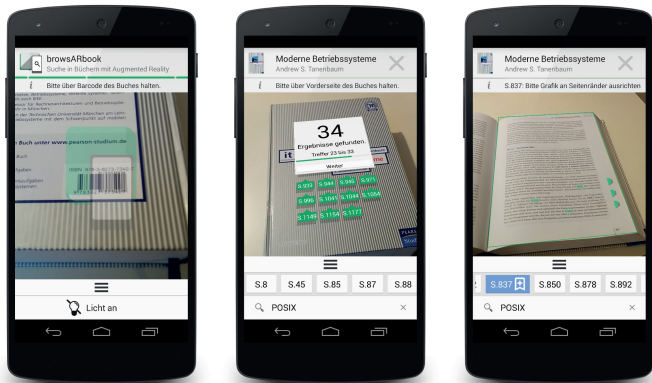


# Augmented Reality for searching in books



Exemplary process flow of browsARbook

## Special Focus

browsARbook's process flow is composed as follows:

1. Scan the book's barcode
2. Search for any desired term by the use of full-text search.
3. The respective page numbers are displayed.
4. The subject's exact positions are displayed on any desired page by Augmented Reality.

Being able to immediately locate the corresponding passage, reading can be commenced instantly.

Furthermore the app features bookmarked terms and pages, a help section and a light function.

Full-text search is made possible by the use of an online service. Therefore every book which is searchable by Google Books is supported by browsARbook. This results in following potential: The more books supplied by Google (and by publishers resp.) the more benefit browsARbook gets.

Different technical approaches to scan and track the book's page were conceived and afterwards revised with the use of usability tests.



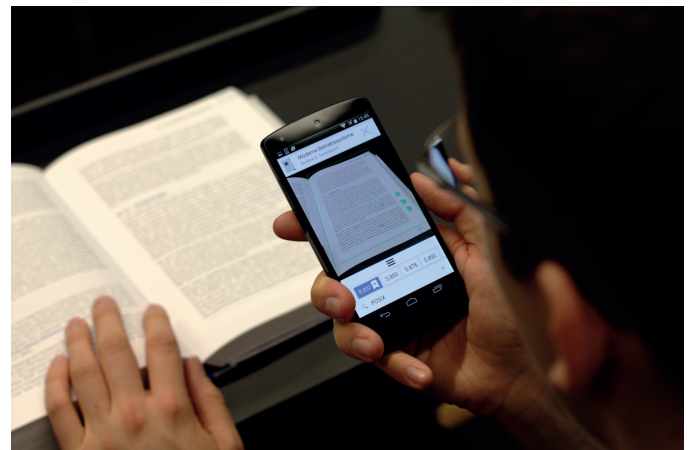
Setting of usability test

## Abstract

It is very time consuming to look up a subject in an utterly unknown book. Time which can be reduced, as far as the subject's verse is familiar. But even consulting the index or register could be effortful and not result in the desired outcome. Thus research will be halted. Nevertheless one does not want to spare working with analogue books. Thereby Smartphones can be helpful as an everyday companion. By this time they are that powerful and flexible, so that a mobile application can offer a solution for this problem.

The Thesis at hand examines how full-text search in analogue books can be achieved and therefore how books can be amplified functionally.

In conclusion a way to realize full-text search in analogue books with Augmented Reality is shown on the basis of development and concept of the own app browsARbook ("browse-a-book"). It's ease of use is finally reviewed based on usability tests.



Exemplary situation: Displaying positions of terms on a page

## Result and Future Work

Based on findings of a first usability test problems of the process flow and handling were determined. These concerned especially the app's feedback to users and browsing a book page. Aquired observations led to redesign details of the app. Furthermore by implementing special automatism browsing a book page was simplified for users.

Due to a second usability test it could be shown that user-friendliness was further increased because of preceding adaptations. Thus it was examined that the use of Augmented Reality within the app is not mandatory required to locate a certain subject. Static overlays of word's positions also quickly satisfy the user's purpose.

All in all the main result: The majority of users accomplished their goal using browsARbook for a speedy result of any desired term in the book and on pages.

Nevertheless future work includes optimizing the user's comfort in controlling the app and further search functions.

In addition conceptual proposals are made for bringing browsARbook to future wearable devices like Google Glass.



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