

Visual Contextualization of Library Data

Designing an Augmented Reality App

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Abstract

The role of libraries changed tremendously in the digital age. Search engine technology and full text availability now define the standards for information research. Libraries as knowledge providers have to face the challenges of the new technologies.

Our poster contribution takes the example of Augmented Reality (AR) to show a way to use the potential of digital technology for library services. AR offers new possibilities to contextualize library data. Hence the transfer of knowledge can be enriched by virtual information and visualization.

In our poster we introduce the project *mylibrARy* and the status quo of the conceptual process of designing a library AR-app. *mylibrARy* is a cooperation project between the University of Applied Sciences in Potsdam, a public library in Berlin and *metaio GmbH*. By providing mobile access to enriched library data the institution is able to stay in touch with users or even generate new users with a high affinity for digital technology. According to the result of our first of four user studies especially the integration of social media and social reading functions plays a crucial role in reaching that aim. Beside the connection to the local library knowledge organization system in the app we plan to integrate further features for the semantic contextualization such as the Wikipedia categories.

Keywords: Augmented Reality, App, Visualization, Usability

In: F. Pehar/C. Schlögl/C. Wolff (Eds.). Re:inventing Information Science in the Networked Society. Proceedings of the 14th International Symposium on Information Science (ISI 2015), Zadar, Croatia, 19th–21st May 2015. Glückstadt: Verlag Werner Hülsbusch, pp. 573–577.

1 Challenges for libraries

The relevance and the availability of digital information have a huge impact on information providing institutions such as libraries. New technologies can serve as the missing link in terms of providing new library services. They particularly offer the libraries a chance to enhance the transfer of knowledge. For instance discovery systems enable a fast access to electronic library resources. But those systems still are like a – pretty fast accessible – OPAC with the possibility of direct links to the full texts. The old catalog is still the paradigm for these technologies. New technologies offer way more in terms of contextualize data. So the next level is to enrich the library data with further information, while visualization is a strong tool to support the transfer of knowledge. One possibility to conduct this process is giving the user augmented library information on his mobile device.

2 Augmented Reality

Augmented Reality (AR) is a variation of Virtual Reality and enriches “the real world, with virtual objects superimposed upon or composited with the real world” (Azuma 1997: 356). In the gaming area, in navigation systems or in medical devices AR has developed in a common technology (Berryman, 2012: 212–218).

AR applications usually show additive information on the display of a mobile device, which is integrated in the real view. In contrast to Virtual Reality applications the real world is enriched with further information, but not replaced by it. The additive information is shown in realtime, in 3D and offers interaction.

3 The project “mylibrARy”

The project *mylibrARy* is founded by the *German Federal Ministry of Economic Affairs and Energy* (BMWi) and is a cooperation project between the

University of Applied Sciences in Potsdam (FH Potsdam) the *Egon-Erwin-Kisch Library* in Berlin-Lichtenberg, the *Library Network of Berlin and Brandenburg* (VÖBB) and one of the leading AR-software companies *metaio GmbH*.

AR-apps as well as library apps already exist. However the combination of both is quite rare and the potential of the further enrichment of the library data with visual information is not exploited yet. On the foundation of this finding the idea for an Augmented Reality app for libraries evolved. The project started in June 2014 and will end in June 2016. The aim is to develop an AR-library-app for German public and academic libraries.

Our methodological approach for the first user study was an online survey followed by a usability study (Richter 2013). We performed interviews with a focus on the product attractiveness, using the standardized questions of the free web tool "AttrakDiff". The results of this look and feel test showed, that the app still has some performance issues, especially with older mobile phones. Furthermore the attractiveness of the product was rated mediocre.

3.1 Status quo of the app

At this point our app offers five basic features: Rating, Reviews, Trailer, Audiobook, OPAC, Share and Similar (see fig. 2).

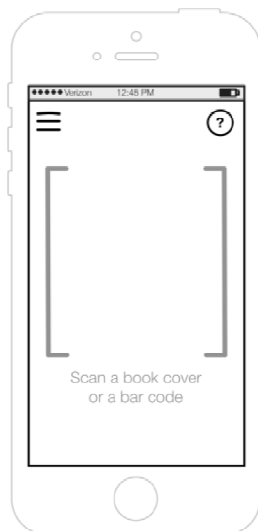


Figure 1. Scan-Display



Figure 2. Features-Display

The app is able to operate with optical recognition using the cover or with the bar code (see fig. 1). So far we implemented the local library catalog (VÖBB), the Movie database *Imbd* and for reviews the Website *Goodreads*.

Our first prototype includes only basic features. But the design of the app is not satisfying yet. Referring to the library stock the app gives directions to semantically similar media or offers further information to the actual medium, like reviews, videos of the author, ratings or the *Imdb*-Website of the film so far. Therefore the integration of further semantic contextualization will bring into focus with the next version of the app.

3.2 Online survey

In autumn 2014 we conducted an open online survey. The favorite features of the participants were:

- Management of the own library account,
- Information service within the library,
- Semantically similar media and
- Reference to other type of medium with the same content.

Hence the features of a more library related app were preferred and not so much AR-related features in the first place.

In an open question regarding features of a library AR-app some interesting services were proposed: A live ticker, which shows the latest library news or the mobile device as a library card with a paying option. Games, quizzes and batches were also common favorite features of a library app.

Proposed interfaces were Wikipedia, YouTube, bookstores or event databases. In the Social Media cluster one of the most innovative ideas was a Friend-finder app, which directs you to your friend, who is also in the library or to a person who is dealing with a similar subject. Two of these suggestions, an augmented library game and the Friend-finder, will be also a part of the app as of May.

4 Findings and future work

Our user study showed, that AR is still often related with a gaming aspect or special visual effects and not the genuinely associated with a library app. As

a result of this first online survey we will include an augmented library game. Referring to this we are planning a project with a big public library in Berlin. We will also implement the Wikipedia categories using the GND¹ of the German National Library as a unique identifier pretty soon and we integrate the Friend-finder-option. Furthermore the recommender service BibTip will be also a part of the app.

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¹ Universal Authority File (Gemeinsame Normdatei)