

Enhancing Library Services with Web 2.0 Functionalities

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Abstract. In this paper, a prototype of an Online Public Access Catalog (OPAC) is presented. This new OPAC features new functionalities and utilizes web 2.0 technologies in order to deliver improved search and retrieval services. Some of these new services include social tag annotations, user opinions and ranks and tag-based similarity searches. The prototype is evaluated by a user group through questionnaires, interviews and with the system's integrated logging mechanism. The results are encouraging enough and show that Library 2.0 technologies seem to be acceptable by the majority of the users.

Keywords: Web 2.0, social tagging, subject representation, OPAC, evaluation.

1 Introduction

The Online Public Access Catalog (OPAC) is the library's main tool for locating material inside it. Until now, OPAC systems are tied directly to the library's main catalog restricting the user to search/browse only its content. In the last few years, the diffusion of digitization and digital library repositories have urged libraries to digitize part of their content and provide this content directly to their users through the various digital library systems [11]. Furthermore, in order to encourage users to organize and access the existing resources according to their needs, libraries enhance their services using Web 2.0 technologies (social tagging, annotations, etc.) [8].

Web 2.0 technologies are user-centered and recently widely spread providing collaborative, interactive and communicative infrastructures and services for the creation and consumption of content. These technologies change the way the users select and organize available information. In particular information is not created and classified only by experts or creators but also by the users.

According to Michael Casey "*Library 2.0 is a user-centered model for library services that encourages user participation in the creation of both the physical and digital services, supported by the consistently evaluating services*" [4]. The concept of Library 2.0 is the generation of a social network interface, where the users exploiting RSS feeds, wikis, tags can't only search for books and other material, but communicate and share knowledge. Libraries are already moving into Web 2.0, but the move has only just begun [12].

Collaborative tagging is the practice whereby users assign uncontrolled free keywords to the resources. They enrich diverse resources like photos and video to

scientific papers and web pages. A recent research reports that the 28% of internet users put tags for several reasons [15]. Mainly they create tags to serve their own needs. But the social aspect of tagging is that it generally makes a participant's tags and resources visible to other participants [17]. The set of the tags introduced for a resource is called *folksonomy*, which it could be presented as a *tag cloud*. Users can click on a particular tag of a tag cloud, to access resources associated with it. Thus the introduction and usage of tags creates clusters of similar resources accessible by user communities.

In this paper we introduce OPACIAL¹, a prototype library information integration system that incorporates Web 2.0 technologies, developed by the Panteion University Library, Athens, Greece. Moreover, a qualitative evaluation framework is presented utilizing the system's logging subsystem, questionnaires, and user interviews in order to explore the system's advantages, weaknesses and its acceptance by the users. OPACIAL functionalities are also compared to other state-of-the-art Library 2.0 systems available worldwide and are presented in section 2. The system requirements are presented along with the system architecture in section 3. The evaluation framework and results are presented in section 4, followed by the paper's main conclusions of the research and our future plans.

2 Related Work

During the last few years some libraries allow users to tag catalogue items and Internet resources. For instance the Penntags² project of the University of Pennsylvania has developed a social tagging system which integrates social tags with the OPAC as well as the documents taxonomy. This service provides browsing to the library material using either the thematic hierarchy defined by experts (i.e. information scientists, or social tags which correlate and interlink the material under various contexts).

Additionally, a public library, the Ann Arbor District Library (AADL), has integrated into the library catalogue a social networking system called SOPAC. It offers to the users the ability to rate, review, comment-on and tag the library items [2]. Specifically the users are encouraged to tag titles and write reviews and jot notes on an interface which resembles to an old fashioned catalog card. Eli Neiburger, IT manager for AADL, reports that 6700 individual cards have been saved to personal card catalogs to date and roughly 4000 notes made so far on the cards throughout the catalog at a rate of about 200 comments per month. That high level of reader involvement strongly indicates that readers want, and will take advantage of, similar opportunities to interact [19, 16].

Another pioneer, Hennepin County Library (HCL), MN, forges new Library 2.0 ground with its innovative BookSpace page. There, suggested book lists (like Amazon.com's Listmania) are created by librarians and users. The interaction opportunity has been enthusiastically embraced by the readers: 270 lists were contributed in the first six months of BookSpace's launch, and the library averages about 600 comments per month on items in the catalog [19].

¹ <http://library.panteion.gr/opacial>

² <http://tags.library.upenn.edu/>