

Chapter 7

Intelligent Personal Agents in Library 2.0 Environments: An Assistant Prototype

Jesús Tramullas

University of Zaragoza, Spain

Piedad Garrido

University of Zaragoza, Spain

ABSTRACT

The use of OPACs has been one of the problems that users of libraries have faced. The application of Web 2.0 techniques in OPACs has favored the interaction between users and library automation systems. However, these improvements focus on aspects of collaboration and recommendation rather than on aspects of cognitive work. In this field, the contribution of software agents can be of great importance. This chapter presents the design of an intelligent personal assistant called Byblon, which uses programming of agents and semantic queries against repositories. The aim of the personal assistant is to offer users recommendations on concepts related to the object of his search. The user evaluation has provided satisfactory results, and the use of an avatar as a future interface development is envisioned.

INTRODUCTION: OPAC AS A LIMIT

Technologies and 2.0 applications have revolutionized the way libraries offer their services in a digital environment. They have also involved a conceptual change in the relationship with us-

ers. Independently of the development of library models and services, the ways in which users perform actions and state their requirements will persist once the qualitative step has been taken to be active and participate. Casey and Savastinuk (2007) have summarized it precisely. Users'

active participation in the library, in the digital environment, takes place via the OPAC, which is the window open into the world. Specialized bibliography is very numerous, so the technical and functional development of the OPACs can be established and studied from the 1960s to date.

OPACs currently have four main roles in accessing the information provided by libraries:

- They serve as a bibliographic and reference database of library contents, taking on the former role of card catalogues.
- They offer access to additional external resources to meet users' requirements.
- They inform users on the status of the services they use, such as circulation, personal bookshelves, etc.
- They provide information on and promote the library's activity and services.

In actual fact, users continue to sit in front of a two-dimensional space, into which they enter terms, and wait for the system to return a set of data, documents and lists responding to the need for information they have stated. Despite the development of library computer systems, the underlying conceptual and functional model has continued to be the same for the past thirty years. The information users obtain responds to correspondence patterns of character strings, and not to concepts and relations between them, which is actually how the need for information in people's cognitive structures is organized. Xie (2008) dedicated a specific chapter to interaction mechanisms in OPACs.

Wells (2007) reviewed the operations and functions of OPACs. He comes to the conclusion that to be truly useful to users, the level of complexity that information retrieval mechanisms can attain must be decreased. He conceives the OPAC as a communication space in which problems leading to interruptions and uncertainties in the communi-

cation between users and the system must be overcome. However, search processes and interfaces produce numerous comprehension problems for users. Despite what is usually stated, OPACs do not seem to be intuitive, and he proposes improving the structure and appearance of systems and their interfaces, as well as the training of librarians and end users. New information discovery tools, which the vendors of library computer systems have been presenting in recent years, seem to be heading in this direction.

In 2008, Kani-Zahabi, Ghinea, and Chen published a study on the perceptions users had of the OPACs of library systems. The starting point was the consideration that the development of OPACs and their interfaces should be based on user-focused design methodology. Consequently, they designed an experiment in which a group of future users, both librarians and readers, determined the functionalities and characteristics that an OPAC should have. The users were of the opinion that OPACs should be easy to learn and offer reliable results in searches, and they rated the simplification of the interfaces as a very important factor.

Taking into consideration the existing tradition of studies and developments on information retrieval in OPACs and interaction with users, new approaches and methods should be considered, which make it possible to continue improving these tools. Web 2.0 has revolutionized OPACs, many of which have added a new layer of social participation and recommendation to their traditional interfaces (Moore & Greene, 2012). Several developments of this type can be seen in other chapters in this book. This study focuses on improving the support OPAC users are provided by creating an overlap of information, which offers users the possibility of increasing their knowledge of the subject, at the same time as performing a classic information search. This development is put forward using Semantic Web tools, which are already available on the Internet.

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