

Chapter 6

Quantitative Approach Applied to User Interface of Latin American Web OPACs

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ABSTRACT

This chapter studies user interfaces of Web Online Public Access Catalogs (OPACs) and presents their principal difficulties in facing the man-machine interaction and the contributions of Web 2.0 to overcome these limitations. Methodologies used to study OPACs interfaces are examined. A quantitative approach is used to analyze Web OPACs in academic, special, national, and public libraries through the conclusive use of several tests: chi-square or test of independence, logistic regression, odds ratio, analysis of variance, and discriminant analysis. The situation of Latin American Web OPACs is verified in relation to the use of Integrated Library Systems (ILS) and Database Management Systems (DBMS). This methodology is proposed to study the 2.0 functionalities in these catalogs.

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INTRODUCTION

Library Information Systems (LIS) in OPACs (On Line Public Access Library) helped implement many of the functionalities identified as useful applications for information searches both in empirical studies and thanks to the advances made in the research field of Information Retrieval Systems (IRS). However, specialists admit that in spite of the fact that on-line catalogs have evolved, they are still far from being effective tools for information retrieval (Borgman, 1996; Ortíz Repiso & Moscoso, 1999; Marcos, 2004a, 2004b; Rodríguez Yunta & Giménez Toledo, 2005).

Between the 80s and the 90s, the bibliography related to this specialization field clearly evidenced the concern about the several factors affecting OPACs performance. Since the end of the decade, this topic has been placed under the spotlight once more, due to the appearance of the 2.0 concept in the domain of network communication. Although in theory, the 2.0 philosophy exceeds the boundaries of the Internet, it is clear that it is in this setting where initiatives oriented in that direction are found.

Moreover, in the specific field of information organization, a new concept model has been developed for the representation of the universe of bibliography. The entity-relationship model has been used to determine the so-called Functional Requirements for Bibliographic Records (FRBR). This is a challenge for the design of LIS, which adds up to the inclusion/integration of OPACs to the 2.0 functionalities. Any changes potentially introduced in the OPAC Web interface in both senses will no doubt lead to a new catalog generation.

In this scenario, the investigation team came up with some questions as to how libraries in Latin America would face such changes. It was essential to first make a reliable diagnosis of the systems used by these libraries to provide access and visibility of their collections as well as functionalities available in their on-line catalogs. Obviously, it will be vital to know how these variables behave

in the region in order to determine the position of information units in relation to the move to 2.0 OPAC. Therefore, several statistical tests were suggested so as to identify the problems related to capabilities the search interface must provide in order to play a role in the construction of the 2.0 Web.

EVOLUTION OF OPAC USER INTERFACE

Wilson (2008) stated that Human Computer Interaction (HCI) is oriented towards interfaces designed to improve and facilitate users' experiences when interacting with computers, both for work and entertainment. Cognitive Sciences may contribute in this aspect. Based on Cognitive Sciences then, HCI challenges mean that a user wishes to perform a task in a given application domain by means of a computing system used as a tool and that, also, wishes to somehow communicate with said system. This dialog must be programmed to optimize the effectiveness and efficiency related both to task performance and to diminish its complexity. Since there are many tasks different users and different domains the tendency towards User Interface for All require HIC models to consider said variations.

In the late 90s, the user interface was graphically represented as bidimensional and controlled through direct manipulation. Further technological advances led to a new type of HCI, the conversational character, with the capacity to communicate by means of different modalities (spoken language, gestures, body language), as opposed to text interfaces which use natural language only. Further research then attempted to integrate emotional and cognitive aspects, to develop speech and dialog rather than syntax (Wilson, 2008).

In this setting, which was the investigators' idea behind OPAC and the new designs, mainly in the academic scenario with a more significant impact in both scientific and technical development?

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