Chapter I

USCInfo:
A High Volume, Integrated Online Library Resources Automation Project

Mathew J. Klempa
Computer Information Systems Consultant, USA

Lucy Siefert Wegner
University of Southern California, USA

EXECUTIVE SUMMARY

This case sets forth automation philosophies and systems development processes associated with the University of Southern California’s “USCInfo”, an integrated retrieval software for accessing both the USC Library catalog and periodical indexes. Regarded at its implementation as being cutting edge in library automation, USCInfo’s present size is 25 gigabytes of data, with searches numbering 3,800,000 annually. USCInfo is illustrative of “messy problems”, that is, unstructured, complex, and multidimensional, which typically involve substantive organizational issues “soft” in nature. Problem conceptualization, decision making, and solution implementations in USCInfo often are both heuristic and utilize satisficing decision-making processes. Such decision making deals with multiple, substantive constraints as well as conflict and ambiguity, that is, “equivocality”. Systems development concepts embodied in this case include:

• Systems life cycle evolution amidst technology change and obsolescence
• Systems design alternatives and end user characteristics
• Management of the systems life cycle maintenance phase
• Management of applications prototyping

Copyright © 2006, Idea Group Inc. Copying or distributing in print or electronic forms without written permission of Idea Group Inc. is prohibited.
• Small design team dynamics, champions
• Organizational impacts on the systems life cycle
• Rational and political organization processes
• Dual responsibility project management

BACKGROUND

USC and Library System Overview
The University of Southern California, founded in 1880, is the oldest and largest private research university in the American West, approximately 14,000 undergraduates in a total enrollment numbering some 28,000. In the five year period preceding systems development of USCInfo, the USC library system comprised some 16 libraries, including: College Library (principle undergraduate library); Doheny Reference Center; several larger libraries — science, engineering, business, public administration and foreign affairs; and other main campus smaller libraries.

As a member of the Association of Research Libraries (ARL), there was continual pressure on resources to keep pace with a rising flood of materials, that is, books, journals, and ever increasingly, other non-traditional media-based materials. Separately, library administration sought to improve the quality of a collection that was historically underfunded. The USC Library budget is affected by the University’s fiscal health, for example, static or downtrending enrollment growth directly impacts library budgets.

U.S. Library Automation
Libraries make a variety of finding tools available to their users, for example, directories, indexes, and abstracting services. Two that are ubiquitous across libraries are a library’s catalog and periodical indexes. Research libraries are driven, in part, by the “information explosion”, that is, the need to provide improved capabilities for locating both catalog and periodical source material in the face of geometrically increasing numbers and types of publications.

The decade of the 1980s witnessed a concomitant rate of growth in the number of libraries digitizing catalog availability as an Online Public Access Catalog (OPAC). Digitizing a library’s catalog can be thought of as an item-specific type “inventory” problem. Each catalog item’s particular characteristics (book, journal, government document, etc.) must be described to an established level of detail. Item “status” must be tracked and reported for inquiry purposes, for example, being cataloged, recalled, checked out, lost/stolen, and so forth. Additionally, patron data must be combined with item data.

The decade of the 1980s also witnessed increased digitization of periodical indexes by various methods such as dial-up time sharing services and CD-ROM-based periodical indexes. Prior to USCInfo, library patrons were offered dial-up periodical indexes search access. Such searches, performed at each library campus site, were librarian mediated, that is, required to be performed by a librarian professional. Costs were subsidized by USC, patrons paid a nominal fee, and access was limited. Library automation planning
Related Content

A Comparison of the Digital Divide Across Three Countries with Different Development Indices
www.igi-global.com/article/a-comparison-of-the-digital-divide-across-three-countries-with-different-development-indices/141564?camid=4v1a

Sampling Approaches on Collecting Internet Statistics in the Digital Economy
www.igi-global.com/chapter/sampling-approaches-collecting-internet-statistics/20498?camid=4v1a

Evaluating the Factors Affecting Decision Support Systems Usage by Strategic Decision Makers in Egypt: Using a Structural Equation Modeling Approach
www.igi-global.com/chapter/evaluating-factors-affecting-decision-support/25815?camid=4v1a
Intangible Determinants in the Introduction and Development of Information Technology: Mediterranean Evidence
www.igi-global.com/chapter/intangible-determinants-introduction-development-information/4518?camid=4v1a