CDS/ISIS:
THE LAGOS BUSINESS SCHOOL EXPERIENCE*

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Introduction

Since the beginning of the 1980's, the Nigeria Library scene has witnessed a wave in automation, from the automation in some Nigerian Universities to the success stories of special Libraries of the like of the International Institute of Tropical Agriculture (IITA). The need for Library automation was informed by the need to improve library service to its users, to make the library more user-friendly and to evolve with international trends. This quest for automation has been beset by a number of problems amongst which are the wrong concept of automation, the cost of acquiring the needed hardware and training for the concerned personnel, prominent among these problems is the cost of procuring an effective library software.

UNESCO, in 1985 found a solution to the software problem by developing the Computerised Development System/Integrated Set of Information Systems (CDS/ISIS). Designed for small special and corporate libraries, as well as sections of large academic libraries, the CDS/ISIS is a non-numerical bibliographic information storage and retrieval software package. Most of the support for and development of this package was provided by Del Bigio who adapted it from the mainframe version, developed in late 1960s.

The essential features of CDS/ISIS:

a. Handling of variable length records and sub-fields;
b. Database definition component allowing the user to define the data to be processed for a particular application;
c. Data entry component for entering and modifying data through user-created data base worksheet;

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d. A retrieval system using a search language that provides for field-level and proximity search operators, in addition to the traditional and/or/not operators, as well as free-text searching.

e. A powerful sorting and report generating facility for directories, catalogue, indexes, etc;

f. A data interchange function based on the ISO 2709;

g. An integrated application development programming language (CDS/ISIS Pascal), this allows each user to tailor the system to specific needs; and

h. Functions allowing the user to build interrelationship between data bases.

The Development of CDS/ISIS

In late 1985, version 1.0 was released. This version took into account the fact that many personal computers (PC) had no hard disk. The data and programs were put on the same diskette so that they could run on such machines. The main hardware and software requirement were on IBM PC/XT/AT and compatibles, 512KB of computer memory (RAM), a floppy disk drive and a hard disk under the operating system DOS 2.0 or higher. The main focus of this version was the exchange of bibliographic data while its major shortcoming was that it could only take 32000 records. While version 2.0 was released in 1987, it was not widely circulated till March 1989. In May 1992, version 3.0 was released. The main feature of this version is the support of Local Area Network (LAN). Although it was possible to run a network by specifying certain parameters of with version 2.3, there was the danger of file corruption if two users tried to update or make changes on a particular record at the same time. The addition of the record locking and database locking feature has resolved this problem. The 3.07 version was released soon after, with some improvements. The latest is version 1.0 for Windows released in 1998, it is designed to run in Windows environment.

General Overview

CDS/ISIS is menu-driven. The main menu leads to sub-menus, a system which makes the package easy to operate. Its record is of variable length text fields and indexing techniques, with sub-fields and formatting language. The structure of the package is to give the Librarian autonomy in deciding and designing what is needed to meet the information needs of his/her library. In many ways, it is unlike other bibliographic database such as TinLib and dBASE, where all the structures has been pre-defined and cannot be modified or edited to serve specialised needs. The major element with CDS/ISIS is that the Librarian needs to know his/her organisation goals, its users, the role the library is to play in the total organisational
structure as well as its unique role as information provider. Armed with this information, the Librarian can patiently work on the CSD/ISIS to get the desired result. From the forgoing characteristics, CDS/ISIS can best be described as a blank board with instruction for the Librarian to design a library database. It may seem difficult and uninteresting at the beginning, however, with appropriate training, it becomes a pack of cards to be dismantled and reassembled at will and with great pleasure.

Many of the bibliographic packages commercially available literally constrain the Librarian by pre-defining all the working parameters of the system, however, the designers of CDS/ISIS have reversed this situation, by ensuring that at full application, the Librarian is a master and not a slave of the system. The time and dedication needed to master the workings of CDS/ISIS has resulted in it being branded as unfriendly by many users who are accustomed to fully designed commercially available packages. This reaction can be very well understood, when the level of computer literacy of Librarians in many countries of Africa and their attitude to library automation is taken into consideration.

CDS/ISIS operate in a multiple access environment, this simply means that it operates in a LAN environment and can be operated by more than one user at a time. As a result of the multiple user feature, security facilities for is available. Here some users on the LAN are denied access to some operations of the package by the network manager through menu design, or pass word. CDS/ISIS can be operated as an integrated library automation system comprising all aspect of library operations -acquisition to circulation as a single data base of all library holdings (books, journals, etc); or in models with each library function operating independent of others. In whatever form it is operated, only one database can be run at a time.

**The Lagos Business School Library**

The Lagos Business School (LBS) is a not-for-profit, non-governmental institution funded by The African Development Foundation. It started functional operation in 1991 with the primary aim of providing international standard executive education to the Nigerian business class as well as countries south of the Sahara. It believes in the holistic nature of knowledge and thus places emphasis on the ethical, intellectual, emotional and spiritual components of learning. To achieve an international learning environment, there was the need to develop a research and information centre capable of providing an efficient, functional and organised information resource base for proper academic work. It was in line with this objective that the LBS embarked on the setting up of a library.
At the conception of the LBS library, automation was the only option considered, however, the software for the automation became a big issue as some of the commercially available ones were prohibitively expensive.

An institution with a well developed computer department, the LBS considered that an in-house software should be developed. Efforts were made using FoxPro, however, its shortcoming made it impracticable to use. It was at this point that CDS/ISIS was considered as a necessary option, based on zero cost availability, and the librarian's working knowledge of the package. Accepting CDS/ISIS as the software for the library automation was just the beginning of a long process of convincing, negotiating, and educating the computer department and management. The computer department had to be educated on the workings of a library, the objective of the LBS library as it relates to the School's research activities as well as to its public image. This was very important because unless these issues are well understood, it becomes difficult, if not impossible to get the full co-operation of the relevant personnel, whose co-operation is needed for the installation of the software as well as its effective operation on the network, and provision of other support services that may arise in the course of operating the system.

The management had to be educated as to the many advantages of the software apart from its cost effectiveness. To management, the security of the records, multiple access, easy of manipulation, data import and export as well as type of libraries using the system were considered factors. However, the most critical factor is a good working knowledge of the software and ability to present and demonstrate an effective use of it. It becomes more difficult to convince management to adopt the package, if the Librarian had no knowledge of the system and required to be trained on it. Thus, an institution can adapt CDS/ISIS by either subtle compulsion, that is making it a part of a larger proposal to a donor agency, with emphasis on training (functional training at local site the trainee library). Alternatively, as with the LBS, where the Librarian is knowledgeable, educate the approving authorities.

**Implementation of CDS/ISIS**

The implementation of CDS/ISIS at the LBS library went through a number of phases, these phases were designed to ensure that the library played its role of servicing the educational and research needs of its faculty staff, students and administration personnel as well as its potential users from related institutions. A user needs survey was conducted to determine the information needs of the library primary users (teaching, research and administrative staff), namely: how they want the information packaged or presented on computer screen; what aspect of a
record, book, journal etc is more important to them; and how frequently do they need the information imprint or on screen. This survey was conducted via questionnaires and interviews. The response from this survey was the major ingredient used in the design of the data base (setting parameters, inverted file generation, display format and accessibility on the network). The survey took about four weeks to complete.

When the data base was functionally set-up, to assess the extent to which primary users needs were met, a sample population was requested to operate the system and give functional criticism on its working principle and as a tool for achieving their information requirements. This objective criticism proved very helpful as it pointed out certain fine details which had been ignored at the beginning. The result was a fine turned data base that met the actual needs of its primary users. The potential users were taken care of within the scope of the service provided to the primary users. The trial period took three weeks.

The Computer Department personnel were effectively involved in the implementation of CDS/ISIS at the LBS library. From the result of the above survey, the computer personnel were informed and educated on the workings of the system as it relates to the result of the survey. This was as a means of obtaining their co-operation and support, a vital factor in the successful implementation of the system. A period of two weeks was allowed for the computer personnel to run and study the system, to enable them have a detailed understanding of its working principles and most importantly how and why it was set up (parameter definition, inverted file definition and search formulation) in its present form. At the end of the trial period, the data entry process began with the most recent acquisitions, in other words, the documents recently purchased were entered first and as time permits, older ones were entered. This method ensured that current publications did not suffer process delay. This applied to all publications (books, journal, reports, conference papers, etc).

The data input was done with original documents, same applied to the retrospective documents. At the time of the automation, the library had about five hindered (500) book titles, five journal titles and few reports. This made management of the records relatively easy. It took about six months to input all the retrospective documents. The system is customised to meet the information needs of the users.

The library functions are fully automated, these functions are the cataloguing, circulation, acquisition, books andserials. The system is a single database with a two page worksheet integrating all the above functions. The sub-fields facility of the CDS/ISIS is used to manage the circulation operations. The full automation of
the library was planned from inception, therefore, in the design of the field parameter all the functional needs of the database was considered and provided for. However, during the three weeks trial period that the database was run, some minor parameter changes were made.

Being an integrating system makes it possible to retrieve information using a series of search methods, the most used being the subject search. The author, title, year of publication, abstract and key words alone or combined are used for information retrieval operations. This multi search method makes it relatively easy to trace an information easily. This search function is the only function of the database that is made available to its user. All faculty staff can access the library from the computers on their desk, while there are four PCS in the library accessible to the external users of the library. The other functions of the database such as the cataloguing, circulation, acquisition are protected by pass word known only to the Librarian.

**Data Base Audit**

To audit a database, the entire records is printed out, this is then manually read thoroughly to identify wrong entry, spelling errors, unwanted keywords, and a harmonisation of the index. All corrections are then entered into the system and a full inverted file update is done. It is important to note the last Master file number of the records, so that at the next audit, there will be no repetition. The database audit is painstaking and time consuming. It is however, very vital to the efficient and effective management of the library. It also helps with the development of a personalised thesaurus for the library. This is because over time, keywords get defined and their allocation in the description of library materials become consistent. For a specialised library like the Lagos Business School Library, the need to develop a functional thesaurus cannot be over emphasised.

**Cost Implications**

The cost implication of implementing CSD/ISIS is two fold, the quantitative (monetary cost) and qualitative (dedicated time and intellectual energy). In monetary terms, what is needed is a computer a printer and training cost of Library personnel. A conservative estimate of five thousand dollars ($5000) should suffice for equipment cost, while the training of the library personnel over a period of segmented six months will require about $5000 (within and outside local environment). Qualitatively, it takes a lot of persuasion and determination to get the approval, co-operation and commitment of authority concerned to see the implementation of the system. On the part of the Librarian, the drive to achieve
result, patience to repeat the same process over and over again (this is what it takes to be a master of the system) and willingness to pull other departments, for example the computer department along. In a situation where the Librarian has little or no knowledge of the system, primary knowledge should be sought from surrounding libraries before proposing it to the institution. This will help in arguing for its adoption by the institution.

**Future Plans**

The library plans to embark on expansion of its physical and material facilities in order to accommodate its growing number of users and meeting their needs. It plans to provide more computers in the library as well computer points, so that library users can come in with their Laptops, connect it to the school network and work. The School has full Internet access, and it plans to make available on the Internet its list of holdings. At the moment, it is not certain if the CDS/ISIS has Internet compatible facilities, however this is been investigated by the computer personnel. Their final report will help to determine the extent to which the library can operate on the Internet.

**Conclusion**

CDS/ISIS has come to launch libraries in developing countries into the age of rapid automation. It has made it possible for libraries with small budgets and minimum external funding to operate efficient and functional libraries. The accusation of being user unfriendly levelled at the package is due primarily to the reluctance of Librarians to recognise and accept the ability to customise their library automation environment, to meet their specific needs. This is can be related to the whole concept of library automation in this part of the world, where it is conceived to be the responsibility of a computer guru to set parameters of the library system; or get an already made commercial system that entails only data entry, no personal input for developing it. The developers of CDS/ISIS must be congratulated for awaking in the Librarian the need to see beyond what is available, and beginning to think more about how to create a functional automated library environment using CDS/ISIS. The result is greater self confidence and mastery of the system. In addition, Librarian needs to develop their negotiation and persuasive skills, this what is often needed in building teams that work. CDS/ISIS will be friendly with you if you take time to develop friendship with it.
Bibliography


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