# AN EVALUATION OF THE AUTOMATION OF THE SACOST CENTRE LIBRARY, UNIVERSITY OF EDUCATION, WINNEBA

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## Abstract

*This article looks at the progress of the automation of the SACOST Centre Library of the University of Education, Winneba. Brief historical developments of the University and the Centre are given. The software being used for the automation and the various functions it performs are discussed. The problems that have been encountered so far have been raised and possible suggestions made.*

## Introduction

The University of Education, Winneba was established in 1992 under PNDC Law 322 that brought under one umbrella, seven diploma-awarding institutions to become a university.

The University's vision is to:

*Become a pre-eminent university of teacher education in Ghana, one of the best in Africa and a world-wide recognized tertiary institution of education (University of Education, 2002).One of the numerous efforts to realise this vision is the birth of the SACOST Centre.*

## SACOST Centre

The School and Community Science and Technology Studies (SACOST) Centre was established by the African Forum for Children's Literacy in Science and Technology (AFCLIST) and supported by the Norwegian Agency for Development Co-operation (NORAD). It is a research and materials development centre for promoting the integration of science and technology into communal activities in African schools. It was inaugurated at the University of Education, Winneba on 19th June, 2000 at the Science Faculty.

The philosophy of the SACOST Centre is to: "foster endogenous development of science and technology in Africa through the integration of existing knowledge and know-how with relevant imported science and technology" (School and Community Science and Technology Studies Centre Newsletter, 2000).

The Centre has initiated a number of activities aimed at implementing this philosophy. One of these is the automation of its Library.

## Automation of the library

SACOST is developing an online library that can be accessed initially, within the University's Local Area Network (LAN-Intranet) and later, on the Internet. In view of these, computers and accessories were provided at its inception. The automation of the SACOST Centre Library started as soon as the processing of its materials began in 2002. It is a reference source, that is, it contains only bibliographic data on the stock of the Library. It is not full- text.

The software for the automation is the FileMaker Pro 5 database, which is blank on purchase. It is a broad-based software, used to manage a variety of information

such as records, accounts, sales contracts, inventories, employees, suppliers and products. The FileMaker Pro also manages, finds, updates and maintains information as well as print out searches and search hits lists.

FileMaker Pro database files are created in the form of templates with a number of fields for inputting bibliographic data on library materials. A systems analyst installed it. All the data for manipulation have been keyed into the database.

The FileMaker Pro is not a dedicated library software. It does not perform any of the traditional library functions such as acquisitions, cataloguing, classification and circulation.

The database provides a graphical user interface (GUI), which enables users to select menu options by selecting icons that take them to screens for intended operations. Three main screens are available and can be accessed from the Home Page. These are: New Record; Search Database; and Users' Database.

**NEW RECORD** The New Record screen allows one to enter the bibliographic data of a new item one wants to add to the database.

## Search database
From this screen, one can specify a search of the database. Search queries use any of the access points provided or Boolean logic to retrieve information from the database. The results of the search are returned as a "hit list" in another sub-menu titled, **Results.** The list is hyper- linked and a click on an item takes one again to another sub-menu, **Record detail**. From this screen, you can edit, delete, duplicate or reset the template.

## Users' database
This screen enables one to view a list of all the users of the SACOST Online Library who have registered, with their pictures displayed if provided. Users are expected to register before logging on to the database.

## Development and training
The systems analyst installed the blank FileMaker Pro database and the cataloguer furnished him with the fields that make up the records, relying on what is found in the Integrated Technical Services (ITS) For Windows software (a Machine-readable cataloguing database used in the University's Main Library). The data in a record is organised into fields.

The Cataloguer, the Administrative Secretary and a Library Assistant were taken through the operations of the database. Some suggestions were made and new fields added as demanded by the items being keyed in. Some of the screens were re-designed to suit manipulation and use.

## Problems
The database was installed in the year 2000. It is just about two years now, yet several problems have been encountered.

### Design
Like any computer-based system for operational purposes, the team, that is, the Systems Analyst, the Cataloguer and the Head of the Computer Centre of the University, should have done a bit of investigative analysis or logical design. This entails a detailed description of the database structure from the user's point of view.

In this analysis, the user's information needs would have been determined, data elements and logical groupings defined, a data dictionary established and all data relationships necessary to produce the needed information determined. It would have afforded the team the opportunity to share ideas on the type of data to be processed by the system; explored the types of databases on the market and their efficiency in manipulating bibliographic data

on library materials and arrived at a consensus on the appropriateness of the database.

From this stage, the Systems Analyst could take off and do the physical design that shows how the database will operate and how data would be arranged in the database. Unfortunately, this did not happen.

The Cataloguer did not access the effectiveness of the FileMaker Pro database to library functions before it was installed. Since the File Maker Pro is not a dedicated library-based database, it cannot do any of the library functions such as acquisitions, cataloguing and circulation.

## Quality control
Data is entered into the database. The maxim "garbage in, garbage out" is very appropriate here. To be able to retrieve high quality information from any system, the Filemaker Pro not being an exception, there should be a very effective method of quality control of inputs. This calls for extra time. Unfortunately, no dictionary/thesaurus has been installed to check spelling as one enters data into the database. This can adversely affect information retrieval.

## Compatibility
The File Maker Pro does not use machine-readable format. Most online cataloguing databases use Machine-Readable Cataloguing (MARC) formats and are compatible with others so one can exchange, export, import and manipulate records for updates and other library services. The database is not compatible with international cataloguing databases such as OCLC, USMARC, UNIMARC and UKMARC, which have millions of library records that libraries all over the world can access and download to help with information processing and dissemination.

Data keyed in into the database is not structured; that is, there are no fixed-length fields. As such, the data cannot be manipulated to satisfy needed library functions.

Since data is not structured, it takes a lot of memory space and slows down operations of the computer.

In addition to the above, the database does not use any codes to represent data so there is no economy of words. This has also compounded the space issue contributing to the use of memory space. An example is when data for a particular field is not available, a code such as a letter or the abbreviation 'n.a.' could have been used to represent this information. Presently, the expression, **Not available**" is entered into the database.

All these factors have contributed to the reduction of memory space thus reducing the speed of the computer.

Presently, the SACOST Online Library is facing this problem. It makes data capture a drudgery. File Maker Pro databases were also installed at libraries of the Kumasi and Mampong campuses of University of Education, Winneba. Both are not functioning.

## Documentation
Documents in the form of manuals, instructions, training materials or leaflets are very essential for the proper use of a software. A reliable software is to be accompanied with documentation. Such documents should provide information on issues such as the aims and objectives of the software, how it was written, the database structure, the level of compatibility with other databases and limitations. Equally important, the manual should indicate minor troubleshooting tips; help files and the type of security features available.

No documentation has been provided. One always has to call the Systems Analyst when

a problem crops up. Solutions to problems could take months. It is a serious omission.

## Automation software in libraries in Ghana

Using FileMaker Pro as a library database is the first in the University of Education, Winneba and the whole country.

Automation in some academic and other research institution libraries in Ghana has been in existence for some years now.

The libraries of the University of Ghana, University of Cape Coast, University of Education, Winneba, and Kwame Nkrumah University of Science and Technology are using Library of Congress Machine Readable Cataloguing databases (MARC) accompanied by software that supports many library functions. The commercial software is the Integrated Technical Services (ITS) for Windows system supplied by The Library Corporation (TLC) of the United States. All the above libraries have purchased the license to use the software.

The Institute for Scientific and Technological Information (INSTI) of the Council For Scientific and Industrial Research (CSIR) uses CDS/ISIS Windows software for automating its collections. It is an integrated database management software, in which data is keyed into the database for information retrieval.

The Forestry Research Institute of Ghana (FORIG) of CSIR in Kumasi uses the ADLIB software prepared in the United Kingdom by ADLIB Information Systems.

## Recommendations

The collections in the database are in different formats (books, journals leaflets, CD-ROMS, audio and videocassettes), so unique accession codes have been developed manually to organize them. It would be ideal if the system generates unique accession codes for each type of material.

Unfortunately, apart from books and monographs, it is difficult to manipulate serials, which have multiple copies. Each serial is taken as a unique record and treated as such. While this is good for information retrieval, it has also led to greater use of memory space thereby affecting the efficiency of the database. A coding system should be developed to reduce the use of memory space.

Inputs of records should have automatic dating systems. The system should generate dates indicating when items are keyed in or updated. This would enhance the efficiency of the database.

On the search database screen, the access point for authors, editors (indeed, all names of persons involved in the output of an item) should be limited to only one access point – "as person's name" so that it can retrieve any name connected to a particular work. This is because it would be difficult for a user to know whether a particular name refers to an author, a composer or an editor.

The access points for searches should also be reduced. Some of these access points, for example, format; graphics and volume cannot retrieve unique items.

As a special library, it is envisaged that abstracts of materials, chapters of books and journal articles could be keyed into the database. So far, it has not been possible. The project can take a second look at this aspect. Nonetheless, the solution to this issue should not aggravate the memory space problem. One other issue is that the collection at SACOST Centre Library may not be compatible with other Library-based databases.

A professional librarian competent in cataloguing and classification, indexing and abstracting with a Science background would be in a position to run the Centre very well.

There should be collaboration among the Systems Analyst, staff of the University Library and the Computer Centre to find solutions to the pertinent issues in order to make the project viable. Then the Library would be seen as serving its purpose.

A manual that lists all that the database is supposed to do should be made available to help solve some basic problems without having to rely solely on the Systems Analyst who is not a staff of the University.

## Conclusion

The first phase of the automation of SACOST Library —data entry of the collection into the database— has been completed. The database of SACOST Online Library has to be accessed on the Local Area Network of the University. This will be tested when the LAN is put in place. Until then, one cannot tell what other issues could crop up.

Meanwhile, the problems so far encountered using this package should be submitted to critical analysis, (by the System Analyst, library staff and all stakeholders), so that solutions would be found to them.

Solutions to these problems and other issues that could come up when the LAN starts operating would all be factored into the second phase of the project.

It is hoped that when the automation is completed, it would be a model Library with its collection being accessed all over the world.

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