ESSENCE, RELEVANCE AND CHALLENGES OF COMPUTER PROGRAMMING TO LIBRARY AND INFORMATION SERVICES

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Abstract

This paper explores the essence, relevance and challenges of computer programming to library and information services. It looks at the different areas of library practice such as: circulation, cataloguing, acquisition, inter-library co-operation and online searches/reference services and explains how computer programming will be relevant in making such services more efficient. The advantages of the computer programme to both the library and those it serves are also discussed. There are however some problems involved in introducing computer programming in library and information services. The paper concludes that the prospects of application of computer programme in libraries are very bright but a strong institutional support, regular financial provisions and a dedicated staff will be very vital to its success.

Introduction

The role of the library is to acquire, organize, preserve and disseminate information and it is only logical to employ all means possible in performing this role. Technological development is a continuous occurrence and there is no end to it. From the evolution of writing and modern printing, which form major stock of the library, today the world is crying about literature explosion, which pose a big challenge to the handlers of information. Again technology has risen to the rescue, we now talk of information technology (IT) which is computer- based. In this way, libraries and information handlers are able to resolve the problem of literature explosion and to perform the task of disseminating information faster, readily and even easily.

The Essence of Computer Programming to the Field of Library and Information Science

The basic infrastructure of development is information/knowledge, and the more informed a people are, the better developed they will be. The essence of application of computer programming to the field of library and information science is that it is vital to the effective performance of the functions of the library. Computer programme is a logical sequence of instructions by which a task is presented to the computer machine. Such logical sequence of instructions could include tasks performed in the circulation section or technical services such as charging and discharging of books, overdue notices or drawing an instruction programme on cataloguing of new books in the library. Computer programme makes it easy to get input data, produce output, manipulate, store and retrieve data.

Relevance of Computer Programming to Library and Information Science

The relevance of computer programming to the field of library and information is interesting as both areas deal with information. The core issue is information handling. Perhaps in any discussion of application of modem technology in the library, the first thing that comes to mind is the computer. This is because of its dexterity in carrying out several tasks it is instructed to do. These tasks include library routine activities like: Circulation. Cataloguing, Acquisitions.

Inter library co-operation
On-line searching

Circulation Section

In this section, activities carried out are charging and discharging of books, reservation, notifications of arrivals, overdue notices, fines, registration of users, and the keeping of daily statistics. These are highly repetitive and routine in nature and can be well taken care of by a computerized system with greater efficiency.

Cataloguing

In the cataloguing section it is common to see backlog of books waiting to be classified and catalogued or for catalogue cards to be made. This causes delay before they go into circulation. Also, error of classification is made by classifying copies of the same titles in different places. These delays and errors are automatically eliminated in a computerized system. In addition to producing several catalogues easily, which could be used in different locations of the library, the computer can be used to produce catalogue cards, spine labels as well as subject bibliographies using the classification scheme. One of Raganathan's five rules of the library is "don't waste the time of the user". Therefore information must get to the reader as quickly as possible, with the computer, this is achieved efficiently.

Acquisition

The acquisition section is responsible for checking of books recommended, ordering and receiving, accessing and preparation of various reports. These routines are sometimes filled with errors ranging from multiple ordering of the same titles to delays in preparation of required reports. A computer based system will perform these functions with both greater speed and accuracy. It can print out order slips, produce reminders or cancellation of notices as well as financial reports and accession lists.

Inter-library Co-operation or Resource Sharing

No library can acquire sufficient materials to meet the needs of its users. So what libraries do is joint ventures., the aim in co-operative computerized systems is the opportunity it offers to share in the materials of the other library sharing in the computer network. In this way, libraries lacking in some materials, capital or human resources are covered,

Online Searches

On-line searches can retrieve information faster than the manual system. It makes it possible for the researcher to have access to millions of bibliographic references, easily and rapidly. Tedious note taking, typing and photocopying which are characteristics of manual searching are eliminated in on-line systems; it answers researchers queries faster and presents results readily and it makes the reference services of the library more efficient.

In the context of information technology, computers are vehicles for the automatic processing of data. Handling of information by a computer is easier and searching can be carried out in more sophisticated ways than is practicable by manual and other means. In addition, such information can be distributed and shared with remote users who can simultaneously access the same information over large distances. This is the relevance of the Internet.

Computer programming relevance to library and information goes in a process whereby the information or raw data is first entered into the computer, then it manipulates and stores the data and finally it emerges in some changed form e.g. the bibliographic data available in a library catalogue can be stored in a computer and a user can retrieve the data or the aspect he/she needs.

To carry out its functions a computer needs to be given a detailed sequence of instructions called a 'program'. This includes each tiny step to be taken by the machine. By feeding different programs to the computer, it is able to perform different tasks at tremendous speed. For example an entire library catalogue can be searched in few seconds, whereas it would take a human being several hours to do the search manually.

Some advantages of computer programme to libraries according to Cochrane (1992) are as follows:

a) Allows easy integration of various activities.
b) Facilitates co-operation and the information of library networks.
c) Helps to avoid duplication of efforts within a library and between libraries in network.
d) Helps to increase the range of services offered.
e) Eliminates some uninteresting and repetitive work.
f) Provides marketing opportunity of its services.

g) Ultimately may save and generate money.
h) Increases efficiency.

Then to the users, Henderson (1992) identified the following advantages:

i. Provision of speedy and easy access to information,
ii. Provision of remote access to users.
iii. Provision of round-the-clock access to users.
iv. Provision of access to unlimited information from different sources,
v. Provision of more up to date information,
vi. Provision of information flexibility to be used by any individual.
vii. Facilitation of reformatting and combining of data from different sources.

Challenges of Computer Programming to Library and Information Science

Inspite of the above discussion on relevance of computer programming to library and information science, there are challenges posed in computer application to library and information services.

Naturally, introducing new changes or especially technologies to a new environment and in this case, the library, is a difficult task. This is because of the human factor. Man does not easily accept changes from what he is used to. As A. B. Veaner puts it "it has been amply demonstrated that the human problems associated with automation far exceeds in difficulty and complexity the technical aspects". The chief librarian therefore has the task of training and carrying the staff and users along if he must achieve a successful application of computer to library services.

Another challenge is related to persuading the chief executive of the organization sponsoring the library to support the automation of the library. This is a challenge in terms of funding.

Tied to the above is terms of cost effectiveness so that the systems and services introduced will be maintained and able to survive.

Another challenge is general inadequacy in the level of relevant infrastructure, particularly telecommunication facilities and power supply. Networking system is greatly hindered by this.

Again inadequate employment of relevant technical staff and problems of recruitment and retention pose some challenges. Other challenges include:

i. Conversion problems from manual to database, installation difficulties,
ii. Frequent changes in technology.
iii. A large exploitative local computer market and unsatisfactory after sales maintenance support.

Conclusion

In our present age, information is power and available technology has shown that computer programming has vast potentials for improving library services in our society. The prospects of application of computer programme in libraries are very bright if there is a strong institutional support and regular financial provisions. A dedicated staff that are ready to learn will be very vital. This will involve series of training and retraining programmes for all categories of staff. These programmes will keep staff abreast of development in areas of hardware and software development, data conversion and how to handle end-users. A revolution in information technologies is occurring and it will shatter the traditional library practices to ensure a better efficient library and information services, which is the goal of any living library.

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