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NIGERIAN UNIVERSITY LIBRARIES IN THE DIGITAL WORLD—ANY HOPE FOR SURVIVAL?

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ABSTRACT

The paper traced the growth of Nigerian university libraries from independence and highlighted the present deterioration of nearly all of them because of their neglect as a result of economic downturn of the country. The importance of digital libraries in Nigerian universities is discussed in the paper. The paper suggests ways and means by which Nigerian University libraries could improve upon the provision of their resources/services in the emerging digital environments to support effective learning, teaching and research

Keywords: Digital world, information and communication technology, Nigerian university libraries, digitalization

INTRODUCTION

The information revolution and the extraordinary increase in the spread of knowledge have given birth to a new era – one of knowledge and information which affects directly economic, social, cultural and political activities of all regions of the world, including Africa. Governments worldwide have recognized the role that information and communication technology could play in socio-economic development. A number of countries especially those in the developed world are putting in place policies and plans designed to transform their economies into information and knowledge economy. Countries like U.S.A., Canada and a number of European countries, as well as Asian countries like India, Singapore, Malaysia, South Korea, Japan among others, either already have in place comprehensive ICT policies and plans or are at an advanced stage of implementing these programmes across their economies and societies. Some of these countries see ICTs and their deployment for socio-economic development as one area where they can quickly establish global dominance and reap tremendous payoff in terms of wealth creation and generation of high quality employment.

According to Ogunsola (2005), in some other countries the development and utilization of ICTs within their economy and society is a key component of their national vision to improve their quality of life, knowledge and international competitiveness. As Faye (2000) has pointed out, ICTs are offering even less developed countries a window of opportunities to leapfrog the industrialization stage and transform their economies into high value-added information economies in the global market.

Technological innovation has contributed to globalization by supplying infrastructure for trans-world connections. According to Ajayi (2000), the revolution taking place in information and communication technologies have been the central and driving force for the globalization process. Both developed and less-developed countries cannot afford to miss out on the opportunities these technologies are creating. In practice, globalization benefits those with technology, resources, contracts, information and access to markets. It has a negative impact on the poor. The prediction is that the gap between the new winners and losers within the world economy order dominated by an information and knowledge economy will be much larger than the development gap that now exists

between the advanced nations and the less developed nations. African countries including Nigeria are at risk of being further marginalized if they fail to embrace these technologies to transform their economies and educational development. The most significant aspect of ICTs and globalization that should concern the developing countries like Nigeria is the fact that it has led to unprecedented inequalities in the distribution of benefits between developed countries and the less developed. Present day globalization is not new because history shows that a similar trend was witnessed in the 19th Century and the earlier part of the 20th Century (Adeboye, 2000). It must be pointed out that this is the reflection of what is happening today in the internet and digital connectivity in Nigerian and other African countries' library development. The present realities of the information age emanating from globalization have made digitization of information resources generated in Africa a matter that requires prompt attention from institutions of higher learning including the universities (Imo & Igbo, 2009).

Okwaro (2010) has noted that digitization and digital/electronic dissemination of information is important, necessary and urgent in Africa to help develop knowledge and skills that will drive socio-economic development of our societies. Despite this urgent need to digitize African contents as well as university libraries, it has been discovered from studies that Nigerian universities are yet to appreciate the opportunity offered by ICT to embrace the initiative to a reasonable extent. Kiondo (2004) has lamented that even at the present levels of ICT development, African scholarly and intellectual contributions are rarely disseminated among Africans and beyond.

In all these developments, there is the underlying assumption that globalization is good for all and that its benefits are shared out (even if not equally) all over the world. The more developed countries benefit while the least developed countries tend to remain impoverished and do not share maximally in the benefits. The combined effect of the global fluidity of finance capital, the growth of foreign direct investment, and the emergence of global corporations have greatly undermined the economic and political sovereignty of States – especially the poor ones. It must be emphasized that the so-called globalized world is riddled with imperfections as it is shown in the development of digital libraries in Nigerian universities and other developing countries. As a result of inadequate funding of Nigerian

university libraries, digitization is grossly inadequate except in a few federal government owned universities.

The focus of this paper is to stress the importance and necessity for the existence of digital libraries in both the state and federal universities in Nigeria with a view to identifying weak areas to be worked upon and suggesting ways federal and state university libraries could attain an enviable world standard which would be beneficial to both the university community and the Nigerians as a whole.

NIGERIAN UNIVERSITY LIBRARIES – PAST AND PRESENT

Forty years ago, Nigeria had five universities. Two of these, Ibadan and Lagos were federal universities, while the Ahmadu Bello University, Zaria, the University of Ife and the University of Nigeria, Nsukka were owned respectively by the Northern, Western and Eastern Regional Governments. By the end of the civil war and with the creation of the twelve states structure, the federal government took over all universities in the country in 1973. The University of Benin which began life earlier as the Midwest Institute of Technology was also taken over in 1974. In 1975, seven new universities, the so-called second-generation universities were established at Calabar, Ilorin, Jos, Kano, Maiduguri, Port-Harcourt and Sokoto by the federal government. With the 1979 Constitution once again placing university education on the concurrent legislative list, there was a flowering of new universities. Altogether fourteen universities, seven federal and seven states were established between 1980 and 1983. Initially, all the federal universities at Abeokuta, Akure, Bauchi, Makurdi, Minna, Owerri and Yola were Universities of Technology. In 1984 Abeokuta, Bauchi, Makurdi, and Yola became campuses of the University of Lagos, Ahmadu Bello University (ABU), Zaria, Jos and Maiduguri respectively. When the four regained full university status in 1988, Abeokuta and Makurdi had metamorphosed into University of Agriculture. The State Universities were Ado-Ekiti (Ondo, now Ekiti State), Ago-Iwoye (Ogun State), Ekpoma (Bendel, now Edo State), Ojoo (Lagos State), Port-Harcourt (Rivers State) and Uturu (Imo, now Abia State). These fourteen universities are known as the third generation of Nigerian universities. The fourth generations of universities were established variously between 1988 and 1992. These consist of four federal universities at Abuja, Awka, Umudike and Uyo, five state

universities at Abraka (Delta State), Kano (Kano State) Makurdi (Benue State), Ogbomosho (Oyo/Osun States) and Owerri (Imo State).

In all, Nigerian universities are currently more than 100 universities from five universities during independence. The rapid growth has not been achieved without problems. It must be realized that university libraries, being integral academic parts of the universities, generally emerged simultaneously with their parent institutions. Hence there are as many libraries as there are universities (Ogunsola, 1999). The proliferation of universities despite the economic recession in the country since the 1980s has increased the problems of the universities and their libraries so much that now their future seems uncertain (Anafulu, 1996). It is usually, centrally located and its building is easy to identify. No students, no matter how brilliant, can afford to ignore the university library. Those who do so are invariably mediocre. It must be acknowledged that advances in information technology are affecting the way that both libraries and the university community perceive the library's roles. There will be new roles for the library staff, new approaches to information access, but the library will always be there, even if it is just a big hall with a bunk of computer terminals – the ultimate electronic library.

It is noteworthy to assert that while the developed nations of the world are neck-deep in the application of high technology for the enhancement of library operations, the developing countries and Nigeria in particular are still getting jittery of automating their library operation. The University of Ibadan Library was the first to computerize its list of serial holdings (Oyemakinde, 1979) and this was published in book form in 1975. It contains the holdings of the library as at 1973. With the computerization of these holdings, it was possible for the university library's clientele to know what journals were available in their subject areas without having to visit the library and subject themselves to the “tedious” browsing through the catalogue cards. With the storage of its information of journal holdings on disk, it has been possible to provide different types of information to its users. Most common among these has been the request for journals listing on a particular subject area by the academic staff of the university. However, as valuable as this publication has been, it has been faced with a number of problems, notably that of updating.

This problem is not of the library's making, but is the usual problem confronting most of the computer installations all over the country today – the shortage of manpower. Coupled with this, of course, is the problem of constant computer breakdown or low level of electricity supply. Work on this started with the staff inputting some of the information into two Visual Display Unit (VDU) terminals located in circulation section of the library for its on-line circulation systems. The computerization exercise was based on putting all the library's resources on file, which will then be used for all transactions – loans, reservations, withdrawals, etc.

In the case of the Lagos University Library, a Plessey Mini Computer System was installed in 1982. The data creation for both the students and library materials which started since 1978/79 is still in progress. For the students' records, the matriculation number was used. The accession number is the unique number selected for the library materials. The installed equipment was functional only for about three weeks before it broke down, and for more than twelve months, all efforts to replace the damaged parts failed. The University of Nigeria, Nzukka Library has also computerized its serial holding by the production, in 1977 of its computerized catalogue of serials held in the University Library Systems. This gives information on journal status. But unlike the Ibadan University Catalogue, information is in a fixed format thereby necessitating the truncation of some journal titles.

Even in the attempts to computerize their libraries, state universities, are not excluded. For instance, Ladoke Akintola University of Technology Library, Ogbomosho has taken the bull by the horn and is reaping the good fruits of automation which the adapted software has facilitated. In response to the demand of modern technology, a computer-assisted library was conceived and proposed at the inception of the library. The library finally decided to choose TINLIB Software package (Ogunronbi & Oladokun, 1992). The three computers are hooked to the University Lansmart System. Other University Libraries had at one time or the other planned to automate their activities. This plan has to be dropped mid-way as a result of shortage of both personnel; and equipment for an effective prosecution of the projects. From the above analysis, Nigerian university libraries are presently facing series of problems in their efforts to provide digital libraries for improved library and information service delivery to their users.

DIGITAL LIBRARY – WHAT IS IT?

Information and communication technology is logically an electronic based system of information transmission, reception, processing and retrievals, which has drastically changed the way we think, the way we live and the environment in which we live. It must be realized that globalization is not limited to the financial markets, but encompasses the whole range of social, political, economic and cultural phenomena.

Information and communication technology revolution is the central and driving force for globalization and the dynamic change in all aspects of human existence is the key by-product of the present globalization period of ICT revolution (Ogunsola, 2005). The world telecommunication system, the convergence of computer technology and telecommunications technology into the information technology, with all its components and activities, is distinctive in its extension and complexity – and is also undergoing a rapid and fundamental change. The results of this are that national boundaries between countries and continents become indistinct and capacity to transfer and process information increases at an exceptional rate. With all these technological development, the foundation for library digitization was being gradually laid. The global information communication has been called “the world's largest machine” and it is very complex and difficult to visualize and understand in its different hardware and software subsystems. As Koffi Annah (1999) had put it, “the Internet holds the greatest promise humanity has known for long-distance learning and universal access to quality education. It offers the best chance yet for developing countries to take their rightful place in the global economy”. And so our mission must be to ensure access as widely as possible. If we do not, the gulf between the haves and the have-nots will be the gulf between the technology-rich and the technology-poor.

The use and production of ICT plays an important role in the ability of nations to participate in global economic activities. Apart from facilitating the acquisition and absorption of knowledge, ICT could offer developing countries unprecedented opportunities to change educational systems, improve policy formulation and execution, and widen the range of opportunities for business and for the poor. It could also support the process of learning, knowledge networking, knowledge codification, teleworking and science systems. ICT could be used to access global knowledge and communication with other people. This is where digital

library is gradually taking place and the developing countries are benefitting from it tremendously. However, over major parts of developing countries, ICT is available only on a very limited scale and this raises doubts about developing countries' ability to participate in the current ICT – included global knowledge economy. At this juncture, one can conveniently ask what digital library really means and how ICT has been its backbone.

The expression digital library which is also known as “virtual library” is relatively new, being a little above fifteen years ago especially in developing countries. One of the writers who coined it is Nanny Schiller who defined it in 1992, simply as “libraries in which computer and telecommunication technologies make access to a wide range of information resources possible”. It is often referred to as 'digital library' or 'electronic library', 'community network' or simply 'library without wall'. It is called 'virtual' or 'digital' because in a good electronic wide area networked library, the user enjoys the euphoria of being able to access collections in distant libraries, and yet he has not physically moved. It is an experience of virtual reality. One of the features is that it emphasizes access and ownership of collections believing that the whole global information super highway is a human resource and heritage which all who have the necessary infrastructure capabilities can tap for their own development (Ogunsola & Okusaga, 2008). The digital library can be regarded as child of necessity originated from the need to use technologies in accessing the world information over-load, or information explosion, for human survival and development. It is necessary for African university libraries to embrace it. Information is power, and how a nation accesses and uses this power, will soon become more important than how it uses its coal, oil, gas and other natural resources. The right to access information and ideas is vital for any society. If citizens are to participate and make informed choices, they must have access to political, social, scientific and economic information and cultural expressions. Freedom, prosperity and development of society depend on education, as well as on unrestricted access to knowledge, thought, culture and information. This right to intellectual freedom is essential to the creation and development of a democratic society. As Nicholson (2002) has put it, this idea is unfortunately unattainable for most African university libraries in the Sub-Saharan region of Africa in their current circumstances. Throughout this

region, illiteracy and dire poverty are serious problems and as a result, millions of people are deprived of access to information and knowledge, and hence the key to a better life. The need for a digital library system has therefore become a most urgent necessity in the developing countries' tertiary education system which provides multiple accesses to the entire collections of a library by means of electronic media. According to Irokwe (2001) a digital library is a library that harnesses digital technologies as infrastructure to search, collect, organize, store and distribute cultural, historical and scientific information whether it is text, visual images or sound. Digital libraries make it possible for electronic books and journals to be accessible to an unlimited audience at the same time, anytime and anywhere. This requires that all operations of the library are computerized. Such operations include selection and acquisition, cataloguing and classification. This unified access system is necessary because of the desire of the libraries to provide maximum library and information services to its users.

From the above analysis, a digital library can therefore be defined as a collection of library resources in electronic/digital format at various locations, which can be accessed and used with great ease using computer information technologies for the purpose of teaching, study, research, learning, leisure and decision-making. A digital library is based on set of data-bases of information from library resources. Although some digital library systems are available in the form of packaged CD-ROM products, the most advanced systems only exist within sophisticated computer systems that are supported by advanced telecommunication equipment to facilitate remote access and resource sharing, using equipment of this sort makes it possible to enter a virtual library, browse around its rooms and shelves, using an index or catalogue, and select a book (by pointing to it and touching it), open it and then read it. Of course, the only place where the book really exists is in the computer and within the minds of its reader. It is a system for providing access to virtual or digital indexes, catalogues, books and journals. It will be necessary for virtual or digital library systems to provide other types, or experience such as surrogate travel, learning scenarios and, may be, access to "virtual or digital librarians" who could help them to find the information and experiences to which they wish to gain access.

DEVELOPMENT OF DIGITAL LIBRARIES – PROBLEMS AND PROSPECTS

The history of university library development in Nigeria dates back to pre-independence time when the University of Ibadan and its library were established in 1948. As pointed out by Aguolu (1996), since independence in 1960, there has been an unrelenting upsurge in the establishment of educational institutions at all levels, especially university education. Successive Nigerian governments have continued to invest strongly in education. It must be realized that university libraries, being integral academic parts of the universities, generally emerged simultaneously with their parent institutions. Hence, there are as many university libraries as there are universities. The proliferation of universities, despite the economic recession in the country since the 1980s, has increased the problems of the universities and the libraries so much that now their future seems uncertain. Added to these problems are the problems of information and communication technologies (ICTs) in Nigerian universities as related to library development. Ever since the problem of the literature explosion became noticeable in the 1970s, the developed world has devised various systems to facilitate the flow of information both within and across the countries and developing countries are invited to take advantages of these devices. However, this invitation is not often readily accepted by the African countries' higher institutions because of some militating factors. These include the human factors, fear, and the level of development – cum infrastructure of the nations and so on. The case of application of modern technology in the library should start with the acceptance of the new technology as vital to the effective performance of the functions of the library. It should be realized that the greatest good one can do for another is not just to share your riches but also to reveal to them their own.

The computer has become such a household word in the developed world that Nigerian university libraries should see it as a great opportunity which should be taken up as soon as possible. For the library, several systems have been developed for their various housekeeping chores and more still are being designed and refined, thanks to the technology of large-scale integration. The use of telecommunication tools such as mail, fax, computer, and video- conferencing overcomes barriers of space, and time, and opens new possibilities for the advancement of higher education. The

use of such technology is increasing and it is now possible to deliver training to a widely dispersed audience by means of on-demand two way video over terrestrial broadband networks. Many students and lecturers can gain experience of communications through e-mail and electronic conferencing systems that run over the telephone networks. Colleges and university libraries in Nigeria should continue to make increasing use of internet. They should be using the internet both to access materials, people, and resources and to display their own web pages created by teachers and students. These developments are not only giving learners access to vast libraries and multimedia resources, but give access to tutors and natural phenomena throughout the world; hence the whole world is being regarded as global village. The boundaries between one institution and other and between institutions and outside world will become less important. Crucially, technology will remove the barriers between school and home. Many nations have used audio-visual devices to transmit educational materials over-long distances.

A survey of university libraries in Nigeria will show the deplorable conditions in almost all of them. Due to their inadequate funding in the face of acute inflation and depreciation in the value of the national currency, these Nigerian university libraries have very few current books, journals, and other reading resources. There are wide scale duplications of few reading materials that are acquired. Many of them have no e-mail, fax, telephone and computer based services. Records of in-house operations are not available. Processing of acquired materials is extremely slow. There are no effective information services to users, and many libraries find it difficult to embark on meaningful bibliographic and current awareness services. The libraries stand isolated from global information systems – the Internet. Yet these Nigerian libraries are expected to serve as information delivery centres to enable their universities to make development impacts on research, teaching, learning and public services. It must be realized that a university is as good as its library. There is therefore an urgent need to transform these conventional libraries into digital/virtual libraries, which are cost effective and can empower their universities for effective teaching, research, learning and solving national problems and preparing the countries in Africa adequately for the competitive world of the 21st century.

For a digital library to be useful there must be a user community and a means for users to reach the library. Since the essence of the digital library is that all the materials are machine held and manipulated, the digital library does not have a physical presence in the same way that a conventional library does. The important point is that a digital library has materials stored in a computer system in a form that allows it to be manipulated and delivered in ways that the conventional versions of the materials cannot be. But it must be pointed out that an automated library is not necessarily a digital library, since a library consisting entirely of conventional physical materials (such as printed books) may be very highly automated. This automation does not make it 'digital' in the sense we are considering here. However, it is true that a digital library must be automated in its essential functions. Because the material is in digital (or computer readable) form, some new possibilities are opened to the digital library which are not present or possible in a conventional library, even with the same material. A good example is the material delivery process. While this process involves removing a book from a shelf and checking it out in a conventional library, the book in the digital library can be copied to a user's computer for reading, still remain in the computer stacks and it can be loaned immediately to another user. This implies that the library holdings (reservations) could become a thing of the past for a fully digital library at the expense of a very much more complex usage tracking system. Its users will be connected to it for research and delivery via computer. The mission of digital library in Nigerian universities should be to provide, in an equitable, cooperative and cost effective manner, enhanced access to national and international library and information resources with libraries all over the world using digital technology.

Before transformation to the reality of digital library can take place, there is much to be done; we need to create electronic information systems that match individual patterns of thinking and learning in order to produce the kind of productivity expected. In addition, before the attainment of user self-sufficiency and enhanced productivity can be achieved, several problems associated with information creation and delivery must be addressed. For instance, Nigerian telecommunication networks have been found to be inefficient and less reliable than networks in other regions of the world as a result of power cuts, inadequate telecommunication gadgets as well as poor value system. It must also be noted that there are

inadequate management and technical experts in Nigeria compared with advanced countries of the world. The level of computer literacy and education is at very low ebb in Nigeria leading to the problem of how to improve and/or impact information literacy. Furthermore, there are problems relating to how to enhance “ease of use” as well as the use of expertise in locating appropriate information and conversion of all paper materials into virtual or digital documents. In addition, there are problems of the role of the librarian in a digital library environment, i.e. transition of keepers of information to information experts and the management of library from shelf access to electronic access information. For Nigerian libraries to overcome the above-enumerated problems, they need huge amount of money and management skills especially in computer education. There is the need to address the increasing demand on the flexibility of the skills, capacity, and continuing education of library staff. The requirement of more technology and communication skill will necessitate constant training and development of library staff.

THE WAY OUT

The introduction of search engines to online use of electronic resources seemed to have signaled the end of any manual approach to searching and retrieving resources (Akintunde, 2010). Also in the last few years, universities world-wide had been ranked based essentially on their presence on the World Wide Web – webometrics (<http://www.webometrics.info>) and Academic Ranking of World Universities – ARWU (Shanghai) (<http://www.arwu.org>). The presence includes the visibility of the institution in terms of research output through publications that are made available on their institutional web sites. Scholarly articles in learned journals, researches, and presentations are considered along with the links made to them for consultation. For instance, Ranking Web of World Universities – webometrics uses four main indicators-sizes (20%), visibility (50%), rich files (15%) and Scholar (15%). Since then, no Nigeria University has been able to make it to the first 500 in the ranking of World universities – whether through Webometrics or ARWU. The highest ranking that any university in Nigeria got was 5,484 in the July 2010 ranking, where 7 of the countries over 100 universities were captured in the first 8000 universities world-wide out of 20,000 universities assessed. The above analysis becomes

necessary because of the inadequate ICT facilities towards the development of digital libraries in Nigerian universities. Yet scholars in the various Nigerian universities had been conducting researches and publishing their results. However, it is apparent that majority of the publications could not gain international recognition because they had been published locally and most of the country's tertiary educational institutions had not been able to accommodate such publications in their websites due to poor internet and digital library facilities.

Moreover, it is plausible to state that many scholars could not publish in foreign academic journals because of the inability to access foreign publication outlets, due to constraints bordering probably on inability to pay publication fees, rejection due to inadequate knowledge of previously published work in the disciplines, etc. In order for institutions to be considered for ranking, they necessarily have to make their research outputs easily available and accessible to the global community, thus encouraging open access. All these can only be possible if Nigerian universities' libraries are adequately equipped with necessary digital and internet facilities. For this to be possible, the long-range planning by Nigerian universities will become more flexible and technology-dependent. The constant change in technology will require constant reviews of the balance of budget items; more of the budget will be used to support access than acquisition of technological power to produce hardware.

Furthermore, the problems of copyright issues as related to authorship and publishing rights have to be overcome before meaningful digital library project is finally achieved. In several advanced countries, digital/virtual library is already a reality. In Africa for instance, only South Africa, Botswana and Egypt can boast of a substantial achievement in virtual library. However, more African countries are beginning to rise up to the emerging trend in information and communication technology. In South Africa and the United States of America, laws approving dematerialization of paper is already on. In Nigeria like many other African countries, for instance, to facilitate the virtual/digital library system or process, it requires that the technological infrastructural and communication patterns we create are aligned with thought processes and learning styles of the populace concerned. That is, the pattern of our thought must be matched with the pattern of organization of knowledge.

This may require some collaboration of computer scientists to design the hardware and software, neuroscientists to give input into mental mapping of users, and library scientists to give inputs into the organization of knowledge (Adelekan, 2001).

It must be realized that the management of the digital library takes its root from its operation, and it cannot be operated effectively if the challenges are not tackled, especially if solutions are not found to irregular electricity supply, inadequate telecommunication gadgets, poor maintenance culture and high cost of computer hardware. Many of the components of a digital library can be bought or produced in-house. This applies to the creation of the digital materials from the originals as much as to the system software. In both cases, it is important to consider the economics of producing in-house versus buying a solution. It is very important to consider the issue of "proprietary solution". A proprietary solution has a number of advantages as well as a number of negative points to be considered by any organization embarking in virtual/digital library.

CONCLUSION

Globally, as publishing is being transformed towards electronic format, the management of our university digital projects should go along this line. Education is also very paramount to the management and sustainability of the digital library. Both the public, students and the managers should be educated from time to time. Managers should have access to information from countries that have made substantial achievements in the running of the digital library, especially the African countries in this category. Lastly, right from the conception of the implementation of the virtual library, the idea of commercialization should be incorporated so that the program can be sustained. Constant evaluation should also be carried out to measure effectiveness and progress. Education should be made a top-priority by the government. This includes general literacy as well as computer literacy and of course a national commitment on a range of information awareness on the need for information communication skills in order to remain relevant. Also different consortia-librarians, academicians, private sector operators, commercial, government, etc. should come together to provide all manners of databases that will connect Nigerian university libraries or other African universities concerned to them. It is also very necessary to collaborate with the international organizations to fund or part-sponsored

programs on awareness as well as reduce the cost of computer expertise. It is very important for the government to reduce telecommunication charges as well as commercializing library and information services. The private sector should be encouraged to bankroll some of the expenses of the programme. It must be realized that if the above suggestions are judiciously followed, Nigerian university libraries have abundant hope of survival.

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