



## AN ASSESSMENT OF AVAILABILITY AND UTILIZATION OF INTERNET RESOURCES FOR FINAL YEAR STUDENTS RESEARCH PROJECT IN NIGERIA TERTIARY INSTITUTIONS

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### Abstract

The research aims to examine the availability of internet resources for students' final projects at tertiary institutions in Nigeria. The craving for the Internet stems from its central role in ICT with access to free online journals, magazines, and other information resources anytime and from anywhere for academic and research purposes. University undergraduates are required to do research during their final year of university. Writing projects are required prior to the award of tertiary degrees in Nigeria. Project writing is regarded as being important by every student. Research project writing involves a student or group of students carrying out a study on a topic of interest. When the project is finished, it is assessed by the work that was completed on time, which indicates the student's ability to select, research, and draw logical conclusions from findings. Resources consulted and cited are greatly impacted by the quantity, quality, and recency of the resources consulted and cited. The research finds that the internet plays a major role in helping undergraduate researchers' access large number of materials from different parts of the globe.

**Keywords:** using the internet, developing countries, academic, research writing, tertiary institutions

### INTRODUCTION

Researchers conduct different research utilizing library information sources. Information is still needed faster than ever in the present dispensation. Since many other sources are used to obtain information other than libraries, the library needs to make every effort to make its relevance felt by its clients, who use its usefulness based on the sources of information found in it (Atsugh & Gwaza, 2012). Regardless of the volume of the library's

collections, the Internet can then easily supplement all the efforts it needs to gather information not available in the building. It cannot hold everything the users need in the library. The use of the Internet has therefore improved the dissemination of information considerably.

The provision of Internet services has become a critical factor in undergraduate students' research activities, particularly in developing countries such as Nigeria, where limited access to existing, reliable information resources has been inadequately addressed. There is no aspect of the contemporary world more influenced by the Internet than the education system, as the World Almanac and Book of Facts (2004) say. Selcher (2005) has noted that the Internet, in particular at higher

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educational levels, is a genuine tool for academic research.

The Internet is a network of linked computers located in various parts of the world that facilitates communication between individuals and organizations, irrespective of their whereabouts. The Internet is mostly used for information collection. The Internet provides access to global sources of information with numerous benefits during the academic cycle. It also allows researchers to discuss and share their knowledge with their colleagues (Ojedekun, 2001 as cited in Audu, 2006).

At libraries, which are the center for research in universities, the Internet plays a role. The impact of Internet resources on library services is important. It is more dynamic, and more accessible than any other resource used in a library setting, like any other reference tool. It offers a communication channel which extends the possibility of interaction between undergraduates and users beyond the physical library. According to Adegboji and Toyo (2006), downloading content from the Internet has made a significant contribution to research facilities. The difficulties of insufficient and outdated resources are considered to be for researchers and students. The best approach to addressing these problems is by using extensive and up-to-date Internet resources (Kamba, 2008).

Lubans (2000) states the Internet has repercussions for the academic work of undergraduate students. He noted that the Internet has had a positive impact on the quality and quantity of the written work of students. He also observed that pupils are attracted by quick access to the indiscriminate usage of the Internet and frequently question the worth or the quality of online content. The internet is a chaotic library since its classification or categorization is not apparent. The capacity of the pupils to differentiate between materials from digitally accessible referral academic papers and the digital version of vanity press papers thus presents challenges.

It was asserted by Nworuh (2001) that the Internet is an electronic network of individual computers with huge volumes of data accessible directly from an individual personal computer programmed for the sharing, transfer, receipt and distribution of information among people with similar interests and needs. The Internet has a wide range of electronic connections. It has therefore proved to be the main vehicle to speed up information flows. The advantage of utilizing the Internet as it focuses on providing updated information services was listed by Adeoti (2000). The most recent information on education, sports, medicine, engineering, aerospace, agriculture, software development, and political, military, military, and aviation technologies, as well as the most advanced in cyberspatial technologies, is also available for book searching. It is thus essential that undergraduates become aware of the significance of the Internet, have the knowledge and the ability to use the Internet, and make adequate use of Internet resources for their studies and research at universities.

Adebiji (2001) said pupils who have fundamental Internet abilities, such as evaluation, unzipping, copying, printing, launching existing applications, altering text, allow them to obtain the most from the Internet. For faster transmission, users need to know how to unzip files (usually large) transmitted over the Internet in an integrated (zipped) condition.

Ampka (2000) believes that university libraries and research information centers, owing to insufficient Internet resources and a lack of Internet-based core capabilities, are irritating for undergraduate students. Likewise, in Ani's 2005 report, students at certain universities in Nigeria cited a variety of challenges to the use of Internet resources, such as access and connection to the Internet. Electronic journals and Internet resources that are critical to learning and research are little used.

Eze and Obiozor (2005) emphasized that the Internet enables academics to interact freely with peers around the globe in their research

activities. You may share information and even results from studies from various places across the globe. They also stated that it is feasible to share visual information in a legible and usable form due to the existence of the file transfer protocol and the World Wide Web. For example, charts, figures, tables, pictures, databases, papers and even program codes are transmitted to distant computers from the Internet for reading and use. These characteristics have facilitated studies worldwide. The quality of researchers' project work is anticipated to be excellent by using Internet resources. Furthermore, Usun (2003) noted that the Internet is a complement to conventional educational resources.

## LITERATURE REVIEW

### Concept of Internet Resources

The Internet is an extremely strong tool for researching academic papers. Academic study in previous years has been an arduous effort to publish books for the local library. Although the Internet has not progressed to the point where every book ever written has been electronically translated, a great deal of research may still be conducted online. One of the finest locations to start with a rudimentary search engine for fundamental research needs. Sites like Yahoo and Google can only be linked to numerous websites through a simple search.

Robinson (2005) lists additional prominent global internet resources for students of political science and affairs, such as ABC News.com, institutions' websites, think-tank websites, and government organization websites. Earth and environmental science students are often on the lookout for web sites, websites or databases of faculties, universities or other institutions where pictures of their work may be found.

Achebe (2008) claims that in all disciplines, items such as statistics, business reports, market research, industrial analysis and digital documents from governmental organizations and educational online institutions, are reported in journals, newspapers and magazines. Libraries are now positioned to make it easier for customers to access these

materials from any connected computer at any time.

The internet resources described by Katimani (2010) as network information resources may be obtained through e-mail (e-mail), newsgroups, online databases, software for online data analytics, directories, software for social and interactive use and data analysis. In the same vein, Parameshwar and Palil (2010) said that the Internet resources are e-journals, databases, technical reports, e-books and reference materials. Brock's e-mail (2010) was also recognized as an Internet resource, as well as e-books, newspaper articles, online newspapers and conference events etc. Full text journal databases and bibliographical databases were also used as Internet resources by Rao, Bhat and Rao (2010).

### Availability of Internet Resources for Research Project

In the current information era, internet resources are extremely essential for any type of study. Mitra and Steffensmeier (2000) observed that a networked educational institution with convenient computer access might promote favorable attitudes towards Internet research usage. They discovered that the research environment enhanced by the Internet has a favorable relationship with students' views towards computers in general and the role computers play in promoting research. The scientists observed that insufficient computers and poor bandwidth supplies prevent pupils from accessing internet resources. Aguolu and Aguolu (2002), on their own, emphasized that "availability" of learning materials implies that they must be differentiated from their accessibility in Nigerian institutions. There may be learning materials, but for whatever reasons, they are unavailable. The availability of educational resources at national and institutional levels should be viewed accordingly. Access to library materials that are conceptually, bibliographically, and geographically recognized may be available. They also noted that, whether it is for bibliography, technical devices or educational support, the quality of

the learning materials acquired by academia largely depends on the quality of decision making by bibliographies and faculty members when selecting particular acquisition titles, whether by purchase, exchange or donation. Okiy (2005) observed the lack of library resources and dissatisfaction among information searchers.

According to Kanamadi and Kumbar (2007), the type, efficiency, and efficiency of university-provided information services are dependent on the computer equipment they have. If the university has no computer infrastructure (basic systems and services that are required for the proper running of a nation or an organization), then it may simply not fulfil consumers' requirements. Over the last decade, a variety of media, including CD-ROMs, online databases, and e-journals, have provided a wealth of information.

The computer and the Internet, two of the most effective communication resources, have become an integral part of daily life and one of the most important tools in education, as Sahin, Balta, and Ercan (2010) agree. This satisfaction makes the Internet a very strong information system. The Internet helps to transmit information between various locations. People of various ages and occupations, students and academics who study science and develop projects, like to utilize the Internet, since it makes it easier, faster and cheaper to obtain information. Methods of utilizing academic resources are extremely essential for academic research, in particular the capacity to examine publications for information. To categories them for literature review, similarities and differences across publications on the same topic may be utilized. Grouping the articles in depth helps to maintain the uniqueness of the content in mind to effectively finish the assignment. Therefore, the internet resources accessible, such as academic electronic journals, search engines, blogs, forums, distance learning and software, have been recognized.

#### **Extent of Internet Resources Used for Research Projects**

The degree to which Internet resources are used relies on so much, such as resource availability, users' fundamental abilities and the perspective of the use of resources within research projects, (Mitra & Steffensmeier, 2000). In addition, numerous Internet resources are used by researchers in the drafting of research projects. These include: Virtual Library, World Wide Web (WWW), Nigerian Universities Management Information System (NUMIS), Electronic Journals (E-Journals), On-line Chatting (E-books), Archives, Social Science Statistics Program (PSS), Microsoft Excel (Public Electronic Network), and Power Analysis and Sample Size (PASS) and university sites.

Virtual libraries improve digital search capacity. Library resources are provided on the desktop of a user and offer the user downloadability, handling of text for literature review and so forth, independent of where the user is physically situated. VanManen (2000) also said that the virtual library is one of the sources of literature review resources for researchers and that the web is available. It is utilized by academics and researchers extensively. According to Gunn (2002), virtual libraries are collections of resources from various libraries and information services that are housed in a single location. The Internet-based Digital Library or a library without walls may simply be described as a virtual library. Virtual library concepts are that everyone with a computer and a connection to library networks can access, without being present in a library physically, not only the resources of this library, but also a range of information available via national and international networks such as the Internet and the IT network. "Digital Bibliothek" and "Virtual Bibliothek" are the words for "library which offers access, via the local or collection of digital items in the same location, virtual or physical, to the collection of dispersed information in electronic form." There are many well-known characteristics of the virtual and digital library, but there are changes to the way the library buys and gives access to collections, to the composition of library

employees and to their responsibilities. Moving to a digital or virtual library not only challenges the accessibility of the material, but also the concept of the document as a whole. Many librarians believe that by the year 2000, all new materials will be digital. Although we haven't got very far, most libraries now struggle to maintain a 'transitional library' that collects and manages printing and electronic materials (Kaliammal & Seelvi, 2004).

According to Ojedokun (2001), students, teachers, and researchers all use the World Wide Web (WW) to access academic resources for teaching, study, and research. The researchers consult academic resources for the literature review. Brabazon (2001) further said that publications in academic journals enable academics to interact with their national and international peers in a disciplined and thorough way. Student papers typically find publication outside of school only when the topic is particularly contentious or notable. Academics develop long-term knowledge, skills, and research competence via undergraduate and postgraduate education. In addition, Brabazon said that the internet is a virtual library and a university and is the source of all knowledge. In Ojedokun (2000), Hicks (2002) had a similar perspective, adding that internet usage in education provides access to a variety of foreign resources. Students and scholars utilize the web as someone has done their job to locate the material.

Mehta and Sivadas (1995) indicated that e-mail is an electronic mail abbreviation, a way of sending mail, text and data via the internet from a computer to a computer. It is an e-mail transmission and receipt. Electronic mail may send or receive about 10 megabytes of information as an attachment to the main message. This demonstrates that two theses, depending on the scope of the thesis and on the number of photos in the content, may be sent or received via e-mail (S). This also indicates the data and that it has been delivered to them with an internet connection without leaving their rooms or offices.

Questionnaires may also be sent to and received by e-mail from individuals. They also

observed that an email has, for example, an address for the user name: Nancyingunan, followed by the "@" symbol; the domain name that is the name of the institution or organization, e.g. Yahoo; and a "point." And lastly, the company or nation that the user is part of, for example, "com" for commercial, "org" for organization, "edu," "edu" for education, "Mil." Email data is transported to the network tool of the sender, called a Message Transference Agent (MTA), which either transmits the message inside that computer network or sends it to another MTA to be distributed across the Internet based on its address. The data file will ultimately be sent to the recipient's private mailbox, which will read it through an email application. The receiver may delete, save, answer or forward the message to others. If an MTA accepts it, it must send a bounce message back to the sender, indicating a problem when a message is not delivered.

Generally, the two components of an email message are: the message header and the body of the message. The header comprises of information such as blind carbon copying (BCC), topic matter, etc. The field to and from receiving the address of the receiver. For individuals, the BCC is for those who wish to copy the e-mail to the subject of the e-mail. You may attach a document or document to a message via e-mail.

Thach (1995) also described the speed and immediacy that e-mail provides as a tool of inquiry as the main characteristic. Furthermore, participants don't have to be synchronized, but they may react when and how comfortable they are. In summary, the main benefit of email is its "compatibility" with the responder. E-mail therefore goes some distance beyond the conventional prejudices which impede interviewing methods. He also assessed how remarkable the usage of emails by pupils is.

Roberts, Smith and Pollack (1997) noted that when interacting via electronic mail, the negative consequences of shyness are frequently mitigated. Electronic interviews, therefore, go a long way to alleviating some of the interpersonal difficulties usually related to

traditional methods of interviews. The researcher finds that transmitting and emailing questions to interviewees really saves the researcher time from going from place to place and also eliminates the worry of failing to meet the interviewees.

### **Basic Internet Skills Necessary for Utilization of Internet Resources for Research Projects**

The researchers' basic Internet abilities are seen as a basis or foundation for the acquisition of additional information via the Internet. To maximize Internet resources, you must be able to start existing programs, search engines, browse, evaluate what you discover, unzip, copy and print files. You need to know how to utilize Internet resources. The abilities of comprehensive research will allow one to better evaluate, and sometimes even have fun in any business environment, the quality of other people's research.

The skills for surfing are highly needed, Harris (1997) observed. He stated that it is a good idea to go from one website to another by following the links. Links are used to move from one website to another or to jump from one website to another. It may be in text or graphical form.

McDowell (1999) supported Harris' opinion that researchers needed to learn how to locate and browse websites, make books, look for information on the web, evaluate materials they have discovered and print off webpages. Similar views to Harris are also given to Hollands (1999). He noted, however, that the researcher should be able to locate materials on the web via the use of a site which is subject-specific. Yahoo is one of such directories. It should be able to explore indexes of subjects and search engines to locate information. Studies have shown that no one research method covers the whole web, so it is a good idea to attempt it again and again if you cannot locate what you are searching for the first time. The scientist should be able, in the field that interests him, to locate materials on the Internet, beginning with a large company or agency. As well as offering information, this

website provides connections to other websites in this field.

Adebiji (2001) observed, on the other hand, that students who had basic internet skills, such as assessing what was identified, unzipping files, copying files, printing, starting existing programs, and changing words, were able to make the most of the Internet. For faster transmission, users need to know how to unzip files (usually large) transmitted over the Internet in an integrated (zipped) condition. Chapman (2002) recommended, for his part, that students should get to know many different indexes, and that they should use search engines such as Archie (FTP), Veronica (Gopher), WebCrawler (www), etc. These technologies may simplify resource search by allowing the user to enter the topic name or "search phrase" into a resource list. It is essential to record carefully how frequently resources consulted are found so that they can be returned promptly and without the search being repeated. In the sense that understanding how to utilize indexes and search engines is the essential know-how of information literacy, the researchers agreed with Chapman. Furthermore, like many other IT technologies, search engine technology is constantly evolving. It is essential to stay informed of changes in search engines, their characteristics and the ability to remain a search engine.

Lee (2003), on his part, noted that the Internet needs knowledge, knowledge of what you are searching for and knowledge of assessment, search engines' efficient use of "help" sites to understand the use of special features, for example, the Boolean operators (AND, OR, NOT). He stressed testing various search engines by highlighting both coverage and relevance ranking variations.

Laird and Kuh (2004) themselves felt that one needed to know what it is and where it is on the Internet. You've got to know how to get there. The range of services and programs required to obtain these services must be understood. To utilize these services successfully, the organization and access to information by each provider should be

understood. This includes things like understanding the addresses of the Gopher topic menus and why Veronica might be used instead of World Wide Web searches. It involves understanding if Boolean logic accepts a certain search program in its search words and how such searches are formulated correctly. According to them, one must differentiate between active and idle discovery, productive research and busy labor to successfully utilize the Web and one's own time.

According to Lamb (2004), search engines are the portal guardians of the online world for the majority of users, despite the fact that they are mostly programmer-driven literal and mathematical engines with no checks on content or religion. According to him, successful internet searches need users to know the fundamentals of search engines collecting information, organizing their recovery systems and mastering certain popular keywords. Employing synonyms and using multiple key keywords at a time (a search stir) on most search engines, tweaking keyboards or phrases to change the syntax and search terms, yields an amazing result difference. For example, on most search engines, "arms control" yields a much more exact return of focused results than arm control without citation marks. The usage of quote marks makes one word in a single sentence. The correct use of a specific syntax (shrink rule) as a search subject in a search box, such as 'I,' 'A,' or 'AND,' allows a search to be modified. This includes 'OR,' 'NO,' 'URL related' or 'Title Search Theme' in the search box.

### **Students' Attitudes toward using Internet Resources for Research Projects**

Many school students from various institutions around the world use the Internet's resources for personal reasons such as identification problems, literature reviews, instrument creation, statistical hypothesis testing tools, and expanding knowledge limits for research projects. Bavakutty and Salih (1999) claimed that Internet resources assist students of Calicut University in India and said

Internet resources provide information round-the-clock/seven days a week. You can perform things more autonomously and you have allocated them to the timeframe. It also allows one to do a job in the daytime (late at night) when the student works best. He also stated that Internet resources save time for information searching and information retrieval, as well as faster treatment of more information. You may search for more terms and see more information because the search is quicker.

Brabazon (2001) said that publishing in academic journals enables university students to interact with their national and international peers in a disciplined and rigorous way. Jagboro (2003) reports that the internet is a tool for scholars to interact and exchange project data in higher education. Today, the .edu domain continues to be one of the biggest Internet contributors.

Hanaver (2004) reports that pupils see the advantages of Internet resources as comprehensive internet resources. All data is accessible for usage in one location. They provide you with a variety of resources. The Internet resources of these kids are seen as an advantage that impacts their education favorably. They think that Internet resources make research faster. That implies that they have more time to write and revise the article. As it's so simple to find a term in a database, there are many alternative searches and different databases that may be tried by students. This leads to more resources, a variety of resources and up-to-date information. The final result is a more detailed and complete document and a more cohesive and well-conceived picture of the concepts in the research.

Madhusudhan (2007) states that a reasonably large number of students utilize Internet resources and that approximately 98 per cent of researchers are more worried about the ease with which materials are downloaded to do research at Delhi University. In their study of internet resources, Swain and Panda (2009) reported on business school students in the states of India, as well as found

that the usage of e-articles in their research activities is highly preferred. Dinesh (2009) also underlined that it was helpful to put out a higher quality study research project for undergraduate students who use a statistical tool for hypothesis assessment and literature evaluation.

Maharana, Shethi & Behera (2010) noted that most studies conducted by professors, students and research scholars in the various academic establishments on Internet use and resources in India and elsewhere occasionally show that most studies show that users' communities accept Internet resources and services. Similarly, Suresh (2010) observed the failure of students who regarded the identification of problems, instrument developments, increasing knowledge boundaries for research, literature review, and statistical tools for hypothesis testing as useless Internet resources. He also complains that students have viewed problems with identification, tool creation, and knowledge boundary promotion as unhelpful in research activities.

### **Challenges of Use of Internet Resources in Research Projects**

There have been a lot of problems with the use of Internet resources in research projects for undergraduate students. Some of these issues include: slow Internet speed, insufficient Internet resources, a lack of Internet services, a lack of Internet know-how, power outages, and a lack of simple Internet access. One of the major difficulties that undergraduate students have faced in creating research projects is the lack of simplicity of Internet resources. The Internet search engine will result in over a thousand results with a single keyword search, regardless of the subject. In addition, database topics frequently overlap with different dates, journals and themes, whether they are full-text or not (Jacob, 1991).

A search engine is a searchable internet index and/or database of online pages. The database is established by robots and crawlers which systemically, automatically and fully collect web pages. The most thorough tool is

employed if you search for complicated things, when it takes extensive care, when your subject is dark and when you are looking for a sentence. Different engines include different pages, but virtually every one covers a significant percentage of the WWW. Barberio (2004) pointed out that undergraduate students do not know what to evaluate on the web and utilize whatever material they may get on the web as such. Adomi (2005) notes that cost for the provision of electric energy sources and ISPs limit user access to internet services. Furthermore, the inadequate infrastructure in Nigerian institutions poses significant challenges to Internet usage.

Gbaje (2007) states that Web servers that offer authentication and remote access to subscription electronic resources with local digitized materials and proxy servers must operate and turn 24 hours a day and 7 days a week. The process of sending e-mail, browsing, and downloading web resources is entirely powered by electricity. However, most of these activities are disabled by an epileptic power supply. In the case of inadequate electrical power supplies, no Internet activities will operate efficiently. As a result, some students are unable to access their essays, which are stored on the computer system. Some of them thus blurred their appointments with their supervisors, while others therefore missed their presentations.

### **Strategies for Promoting Use of Internet Resources for Research Projects**

The difficulties of utilizing the Internet for research projects may be overcome in so many ways. Some of the solutions included in the research include the following: greater bandwidth subscriptions, more computers, user education, power supply enhancement through backup generators and inverters and internet organization. Kaniki (1996) states that a suitable Internet user education program should be established throughout the first-degree program in order to address Internet abilities in general. This may be included in the school's academic curriculum and be taught by both bookkeepers and members of the faculty.



The lesson should be performed in a networked room with good equipment. In the process of teaching and learning, it is necessary to discover abilities that are not as complete as you may think.

Ellis and Hawghan (1997) have highlighted in Internet User Education that students may be able to utilize several Internet sources. It is critical that the students' abilities are not taken for granted. They urged librarians to actively improve student skills and to be mindful of the changing information requirements of students as they go through the school system. This transaction should be reflected in information skills programs. They are able to encourage students to become more aware of the relationship between the Internet and resources and the role played by subject librarians by playing an active part in training students in the area of information skills, stressing that over reliance on specific information sources or channels is not recommended, as this can restrict access to information. Since an individual student's knowledge requirements vary significantly, he or she advances via investigation.

Kenedy (1999) observes that the user should still be acquainted with the terms he is looking for while he is still learning about the Internet, but with respect to a particular element of formulating keywords or sentences. You should try forming keywords (principally study topics), phrases and terminology which define your subject (to avoid popular phrases, except when put in quotes). The search is supposed to utilize keywords and pronouns. Many search engines are operated using Boolean operators that are not theoretically based and that contain and include terms and conditions.

Popkoff (1933) states that when interacting with a database, an investigator may use a single word or a combination of terms. A user should be precise about what he/she needs as much as feasible. If a single word finds what is needed, it may be utilized, but in most of these cases, the user's interest can only be specified accurately in a combination of terms. In addition, Aina (2004) pointed out that most

search keywords are single words in the construction of search terms. Single words are extremely simple to search for as long as the information, such as the catalogue, is available. All databases containing the word "catalogue," but no additional letters appended to "catalogue," will not be retrieved.

## **CONCLUSIONS AND RECOMMENDATIONS**

A study of the challenges that impede the use of Internet resources by graduate students for the research project has shown that: slow speed, insufficient Internet resources, poor Internet service, lack of the skills needed for the Internet, power interruption, and a lack of simplicity on the Internet. This conclusion has implications for appropriate supply for undergraduate students. Libraries and information centers are unable to provide sufficient internet access for undergraduate students and to provide internet access to them. In addition, people are upset because they cannot utilize internet resources to do research projects.

In essence, in the strategies for the promotion of the use of Internet resources for a research project, the study showed that higher bandwidth was necessary, more computers were needed, user education was introduced, power supply was improved through standby generators and inverter supplies, and Internet resources were downloaded and organized. An additional consequence is that institutions need to invest in more internet resources to ensure sufficient supply and conduct an aggressive internet user's education program for research projects for graduate students.

In order to increase the use of web resources by undergraduates, library companies should ensure that they organize programs for Internet users for users, such as starting an on-line program, evaluating what information has been found, unzipping the files, copying and printing, etc. In order to improve their perception of Internet resources in their research projects.

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