



---

---

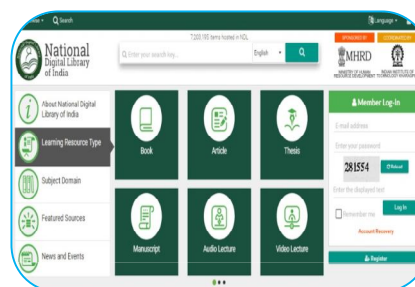
## NATIONAL DIGITAL LIBRARY: AN INITIATIVE DIGITAL INDIA

**Dr. Aarief Basheer**

**Librarian, Islamiah Women's Art's and Science College,  
Vaniyambadi, Tirupattur District.**

### ABSTRACT:

Digital India is a campaign launched by the Indian Government to improve online infrastructure and offer Indian citizens an easy online government services as well as making India a digitally empowered country in the field of technology and MHRD under its National mission on education through information and communication technology has initiated the National Digital Library. This paper focused on Digital India and National Digital Library. It is well recognized that libraries all over the world are undergoing transformation, especially owing to the development in information and communication technologies. Traditional libraries are changing to digital libraries and new libraries that are being set up are increasingly of the digital kind. As a result, there is widespread interest and consequently, a lot of research and development activities are being carried out in this area world over. In India a number of institutions are also in the process of setting up digital libraries and many scholars and practitioners are conducting research on digital libraries. It is well recognized that libraries all over the world are undergoing transformation, especially owing to the development in information and communication technologies. Traditional libraries are changing to digital libraries and new libraries that are being set up are increasingly of the digital kind. As a result, there is widespread interest and consequently, a lot of research and development activities are being carried out in this area world over. In India a number of institutions are also in the process of setting up digital libraries and many scholars and practitioners are conducting research on digital libraries.



**KEYWORDS:** Digital India, Digital Library, NDL and MHRD.

### INTRODUCTION

Libraries are the storehouse of knowledge as they maintain the book and other knowledge resource available - mostly in printed form. However, with the advent of digital technology and Internet connectivity, the library scenario is changing fast. Digital technology, Internet connectivity and physical content can be dovetailed resulting in Digital Library. Data available in physical form has been preserved digitally in Digital Library. Digital Libraries have the ability to enhance access to information and knowledge. They also Bridge barriers of time and space.

In the past initiatives have been taken by different Ministries / Departments / organizations for digitizing and preserving data available in physical form. However, this activity has been restricted mostly in the area of the work / interest of the organization. Department of Electronics and Information

Technology (DeitY) too has in the past, supported projects in the area of Digital Library Initiatives. The initiatives have been essentially of two types:

Setting up of Mega Centers and Scanning Centers in coordination with Indian Institute of Science, Bangalore and in collaboration with Carnegie Mellon University, USA. Under the collaborative management, scanners for these centers were provided by Carnegie Mellon University, USA, under its Million Book Universal Digital Library Programme. Indian Institute of Science, Bangalore is coordinating this Programme under the guidance of Professor N. Balakrishnan, Associate Director. DeitY provided financial support for computers, training, manpower, tariff etc.

### Digital Library

A digital library is a collection of documents in organized electronic form, available on the Internet or on CD-ROM (compact-disk read-only memory) disks. Depending on the specific library, a user may be able to access magazine articles, books, papers, images, sound files, and videos.

On the Internet, the use of a digital library is enhanced by a broadband connection such as cable modem or DSL. Dial-up connections can be used to access plain-text documents and some documents containing images, but for complex files and those with animated video content, a downstream data speed of at least several hundred kilobits per second ( Kbps ) can make the user's experience less tedious, as well as more informative. Internet-based digital libraries can be updated on a daily basis. This is one of the greatest assets of this emerging technology.

On CD-ROM, the amount of data is limited to several hundred megabytes ( MB ) per disk, but access is generally much faster than on an Internet connection. Several CD-ROMs can be combined in a set, and because the disks are small, a large library can be accommodated in a reasonable physical space. The main limitation of CD-ROM is the fact that updating cannot be done as frequently as on the Internet. In addition, producing and distributing CD-ROMs involves overhead costs that are largely nonexistent in Internet-based libraries.

Digital Libraries (DL) are now emerging as a crucial component of global information infrastructure, adopting the latest information and communication technology. Digital Libraries are networked collections of digital texts, documents, images, sounds, data, software, and many more that are the core of today's Internet and tomorrow's universally accessible digital repositories of all human knowledge. "Digital libraries are organizations that provide the resources, including the specialized staff, to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the persistence over time of collections of digital works so that they are readily and economically available for use by a defined community or set of communities".

In India currently the concept 'Digital Library' is being practiced by and large loosely or even confused by many information systems. It is therefore imperative that the concept is properly understood so that there is no ambiguity while we progress with the work of designing or developing a digital library which is fully justified in the technical sense of the word. It is important that embarking on a digital library project is something which will take away substantial amount of time, energy, manpower and of course the hard earned money being pumped into it – be it for system development or towards development and maintenance of the collection, in a meaningful way.

Some institutions have begun the task of converting classic books to electronic format for distribution on the Internet. Some files can be viewed directly in HTML format; others can be downloaded in PDF format and printed. Some publishers keep electronic files of books and produce them one unit at a time in printed and bound form on demand.

Electronic distribution of intellectual and artistic property has authors, agents, and publishers concerned about the possibility of copyright infringement. It is much easier to copy a CD-ROM, or to download an electronic book and make unauthorized copies of it, than it is to reproduce bound volumes and distribute them illegitimately. Fundamental changes in copyright law - and/or changes in the way in which the laws are enforced - are likely to occur as digital libraries expand and their use becomes more widespread.

A digital library is a library in which collections are stored in digital formats and accessible via computers. The digital content may be stored locally, or accessed remotely via computer networks. A digital library is a type of information retrieval system. In the context of the DELOS, a Network of Excellence on Digital Libraries, and DL.org, a Coordination Action on Digital Library Interoperability, Best Practices and Modelling Foundations, Digital Library researchers and practitioners and software developer produced a Digital Library Reference Model which defines a digital library as: "A potentially virtual organization, that comprehensively collects, manages and preserves for the long depth of time rich digital content, and offers to its targeted user communities specialized functionality on that content, of defined quality and according to comprehensive codified policies." The first use of the term digital library in print may have been in a 1988 report to the Corporation for National Research Initiatives. The term digital libraries was first popularized by the NSF/DARPA/NASA Digital Libraries Initiative in 1994. These draw heavily on *As We May Think* by Vannevar Bush in 1945, which set out a vision not in terms of technology, but user experience. The term virtual library was initially used interchangeably with digital library, but is now primarily used for libraries that are virtual in other sense.

### Digital Library Initiatives in India

In Indian scenario the concept of establishing digital libraries is coming up. The modern computerized libraries where all library operation is being carried out by the specialized library application software and suitable hardware and software for creating and using library databases. These libraries are also having traditional collections but they are procuring digital resources in the form of e-journal subscriptions, bibliographical and Full Text Databases in CD-ROM/ DVD –ROM format, Online Databases of specialized subjects. These e-resources can be accessed over the Internet on IP based identification of users.

Now-a-days Digital Libraries and Digitization are very important catch words in every aspect of life to preserve knowledge resources pertaining to the area of art and culture, education, science and technology (S & T), Library and Information Sciences, literature and humanities, media and entertainment, preservation of cultural heritage and history. The notable institutions among these are National Informatics Centre, All India Institute of Medical Sciences (AIIMS) located in New Delhi, National Institute of Mental Health and Neuroscience in Bangalore, MGR University in Chennai, National Library, and Kolkata etc.

### Features

Digital libraries have attracted almost all the developed and developing countries due to its features and the opportunities it extend to the information providers and information seekers. The digital library has the information in the electronic form and electronic media facilitates the access to information available in digital form at different places. It offers new levels of access to broader audiences of users and new opportunities for library and information science field to advance both theory and practice. They contain information collections predominantly in digital or electronic form. Electronic publications have some special problems of management as compared to printed document. They include infrastructure, acceptability, access restrictions, readability, standardization, authentication, preservation, copyright, user interface etc. But still the advantages are more and therefore the importance of digital libraries has been recognized by all nations of the world. India has indeed recognized the importance of digital libraries and lots of initiatives have been taken by various libraries / institutes / organizations.

Digital libraries do enable the creation of local content, strengthen the mechanisms and capacity of the library's information systems and services. They increase the portability, efficiency of access, flexibility, availability and preservation of content. Digital Libraries can help move the nation towards realizing the enormously powerful vision of 'anytime, anywhere' access to the best and the latest of human thought and culture, so that no classroom, individual or a society is isolated from knowledge resources. Digital library brings the library to the user, overcoming all geographical barriers.

## Data, Information and Knowledge

The role of pertinent and contextually relevant scholarly information in an academic or research environment is a complex issue which calls for an exclusive paper itself. Generally information involves data in context. Information is not separate from its context because the interpretation of incoming data streams is dependent not only on the perception of the receiver, but in the context of the moment. Information that is relevant becomes actionable knowledge during the duration of the specific context. This is the reasoning behind the design of specific subcomponents and companion-components to be introduced shortly. For a learning organization in particular, scholarly information is the critical piece that transforms fact into knowledge.

In the current practical setting the recorded knowledge reaches libraries by way of established scholarly publication types both in print as well as digital formats. There is an amazing penetration of scholarly digital information through a variety of forms such as books (published as such or issued as accompaniment), journals, portals, mortals, reports, CBTs, WBTs, cases, databases etc. To make matters more complex the vast array of different file formats, standards and platforms in which documents are published, pose a multiplicity of threats to the information professional who is supposed to be the custodian and service provider of these information products once it has found its way into the library.

## Definitions

"An informal definition of a digital library is a managed collection of information, with associated services, where the information is stored in digital formats and accessible over a network. A crucial part of this definition is that the information is managed. A stream of data sent to earth from a satellite is not a library. The same data, when organized systematically, becomes a digital library collection. Most people would not consider a database containing financial records of one company to be a digital library, but would accept a collection of such information from many companies as part of a library. Digital libraries contain diverse information for use by many different users. Digital libraries range in size from tiny to huge. They can use any type of computing equipment and any suitable software. The unifying theme is that information is organized on computers and available over a network, with procedures to select the material in the collections, to organize it, to make it available to users, and to archive it."

"A digital library is a special library with a focused collection of digital objects that can include text, visual material, audio material, video material, stored as electronic media formats (as opposed to print, microform, or other media), along with means for organizing, storing, and retrieving the files and media contained in the library collection. Digital libraries can vary immensely in size and scope, and can be maintained by individuals, organizations, or affiliated with established physical library buildings or institutions, or with academic institutions. The digital content may be stored locally, or accessed remotely via computer networks. An electronic library is a type of information retrieval system".

In simple words, Digital Library means it is collection of digitized documents, images, and sounds that can be accessed and read by the use of mobile, tab, laptop, computers in ICT era.

## Digital India

Digital India is a campaign launched by the Government of India to ensure that Government services are made available to citizens electronically by improved online infrastructure and by increasing Internet connectivity or by making the country digitally empowered in the field of technology.

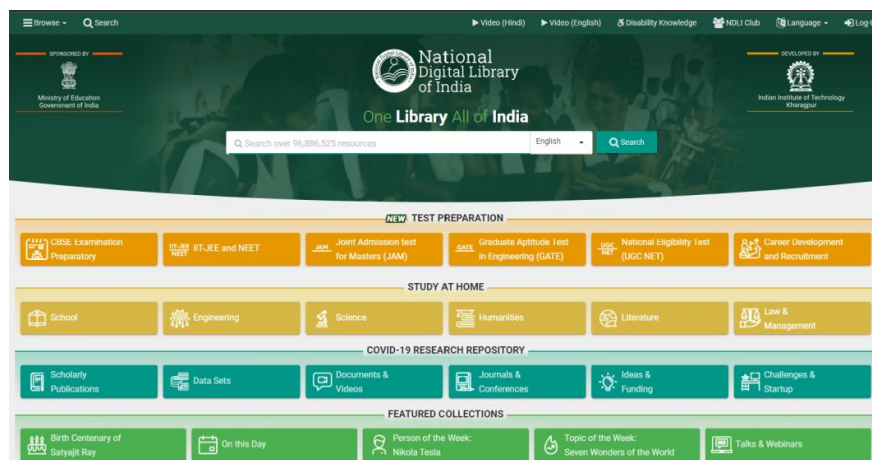


## Digital India

Digital India, a much ambitious programme, was launched on 1st of July in 2015 at the Indira Gandhi Indoor Stadium, Delhi. It was launched in the presence of various top industrialists (Tata Group chairman Cyrus Mistry, RIL Chairman and Managing Director Mukesh Ambani, Wipro Chairman Azim Premji, etc). In the meeting, they shared their ideas of bringing digital revolution to mass people of India from cities to villages. Various events have been held in the presence of Information Technology companies to cover 600 districts in the country. Digital India programme is a big step taken by the government of India to make this country a digitally empowered country. Various schemes regarding this plan have been unveiled (worth more than Rs 1 lakh crore) such as Digital Locker, e-health, e-education, national scholarship portal, e-sign, etc.

## National Digital Library

Ministry of Human Resource Development under its National Mission on Education through Information and Communication Technology has initiated the National Digital Library (NDL) pilot project to develop a framework of virtual repository of learning resources with a single-window search facility. Filtered and federated searching is employed to facilitate focused searching so that learners can find out the right resource with least effort and in minimum time. NDL is designed to hold content of any language and provides interface support for leading vernacular languages (currently Hindi and Bengali). It is being arranged to provide support for all academic levels including researchers and life-long learners, all disciplines, all popular form of access devices and differently-abled learners.



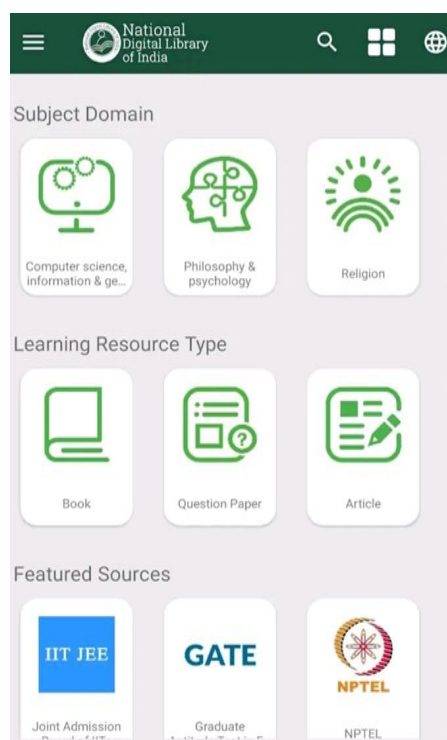


## National Digital Library

According to AICTE new norms 2017-18, it is essential to become member of National Digital Library of all Colleges and Institutes which is free available by registration. Users can register on the site of MHRD than access required eBooks, journals, E-Databases on NDL.

## NDL Mobile App

Ministry of Human Resource Development under its National Mission on Education through Information and Communication Technology has initiated the National Digital Library of India (NDLI) pilot project to develop a framework of virtual repository of learning resources with a single-window search facility. Filtered and federated searching is employed to facilitate focused searching so that learners can find out the right resource with least effort and in minimum time. Users can free download NDL App for smartphone through Google App.



## Mobile App: National Digital Library

Users can access NDL on smart phone by download of NDL App which free available on Google Apps.

## Features of National Digital Library

- 13,00,000+ Items have been authored by 1 lakh authors
- Repository hosts contents from multiple subject domains like Technology, Science, Humanities, Agriculture and others
- Items are available in more than 70 languages
- National Digital Library to digitize one million books and journals
- Repository integrates contents from different Indian Institutional Repositories
- Educational materials are available for users ranging from primary to post-graduate levels
- More than 40 types of learning resources are available
- India and U.S had collaborated for establishing a National Digital Library to digitize one million books ranging from technical literature to art.

### National Digital Library Digitize Books

India and U.S have collaborated for establishing a National Digital Library to digitize one million books ranging from technical literature to art. In the year 2016, the library is planning to bring 100 institutes under its fold. The NDL will ensure "uniform high standards" of e-content, free of cost on a single platform. The project has 13 nodal centers that are linked together through internet connections as slow as 512 kbps.



### NDL to digitize one million books and journals

According to newspaper reports, the Human Resource Development (HRD) Ministry has said that the first phase of its National Digital Library will be complete by February, next year. The mission is to reach one million digitized books and journals from 100 institutes. Everyone will be able to access the library.

An old initiative, the National Digital Library announced the programme back in August 2010. The objective of the mission was to make collaborative arrangement between institutions in India and the US to digitize a million books containing both technical literature and art. The project is listed as completed, with servers installed at nodal centers to host the books. The nodal centers are provided with internet speeds between 512 kbps and 2 Mbps to host these servers.

Currently the digital library website is hosted by two agencies namely, IUCAA in Pune and IISc in Bangalore. Books from various topics such as astrophysics, chemistry, law, biology, mathematics, mythology etc., can be found. Books in various languages including Sanskrit, Bengali, Hindi, Kannada, Marathi, Tamil, Telugu and Urdu, other than English shall be available.

### CONCLUSION

Digital India is a project started by the government of India on 1st of July, 2015 in order to transform India into a complete digitally empowered as well as knowledgeable country of the world. This project is interconnected by the various governmental departments such as IT, education, agriculture, etc. in order to achieve a promising bright return. It is headed and planned by the ministry of communications and information technology. It is like golden opportunity for India when got implemented properly. In the very starting of the project launch, there was a plan by the state government to make available high speed internet connection in almost 250,000 villages and other residential areas of the country.

In this context, Ministry of Human Resource Development (MHRD), through its National Mission on Education through Information and Communication Technology (NMEICT), has sponsored and funded the National Digital Library (NDL) pilot project; this project is really appreciable because it has educational materials from primary to post-graduate levels more than 70 languages and according to AICTE norms 2017-18, it is essential to become member of NDL of all Institutes and Colleges which is free available by registration.

## REFERENCES

1. <https://ndl.iitkgp.ac.in/>
2. <http://meity.gov.in/content/national-digital-library>
3. <http://indiatoday.intoday.in/education/story/national-digital-library/1/538483.html>
4. <http://home.wlu.edu/~whaley/classes/digilib/whaley/definition.html>
5. <http://whatis.techtarget.com/definition/digital-library>
6. [https://en.wikipedia.org/wiki/Digital\\_library](https://en.wikipedia.org/wiki/Digital_library)
7. <http://www.businessdictionary.com/definition/digital-library.html>
8. <http://www.definitions.net/definition/digital%20library>
9. [https://en.wikipedia.org/wiki/Digital\\_India](https://en.wikipedia.org/wiki/Digital_India)
10. <http://www.indiacelebrating.com/essay/digital-india-essay/>



**Dr. Aarief Basheer**

**Librarian, Islamiah Women's Art's and Science College, Vaniyambadi,  
Tirupattur District.**