Kerala Academic Library Network

(KALNET)

Project for Digitization of Library Resources in Universities and Colleges in Kerala
Digitization of Rare Books and Manuscript Collection

Kerala State Higher Education Council

Thiruvananthapuram-33

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2022

Kerala State Higher Education Council

Thiruvananthapuram-33

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Executive Summary

The Kerala State Higher Education Council has developed a network of academic libraries of the state universities for sharing of resources through a single search interface- (Kerala Academic Library Network KALNET).

In the second stage the digitization of Rare Books and Manuscript Collection in these libraries will be done. The goal and objective of the digitization project is to make available the rare books and manuscripts in the libraries of universities and colleges in the digital mode.

Efforts will be made to involve librarians, technologists, conservators, researchers, and administrators in this project. Project will be developed based on the requirements of scholars and development of digital research methodologies which might include big data, resource aggregation, detailed image analysis, data visualization, geospatial mapping, social media, etc.

Both the structure and context of the original will be maintained, a link back to the catalogue record will also be available. The original collections after digitization will not be discarded as interaction with a digital surrogate can never provide the full range of knowledge that is gained from interacting with physical collections.

High-resolution colour images that include technical information about the images, information about copyright, a scale and colour chart, zooming capability, full-text searching, full or partial transcriptions of the texts, and geospatial coordinates will be available. Descriptive, structural, technical, and administrative metadata will be provided.

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Introduction

The government of Kerala in November 2019 declared that access to the internet is a basic human right. This was an effort to bridge the digital divide that exists in society. The K- phone is one of the measures that intends to make available the internet to all sections of society. The Kerala State Higher Education Council has developed a network of academic libraries of the state universities for sharing of resources through a single search interface- (Kerala Academic Library Network KALNET). In this network, participation of 14 state universities and networking of 140 libraries in these universities is ensured. It contains data of more than 15 lakhs library collection including books and Ph.D. theses.

Library digitization of collections is transforming the ways that people discover information and conduct research. Libraries have a responsibility to provide global access to their digital collections: the public demands it and scholars expect it. The Internet has broken down traditional barriers to access brought about by geographic distance, economic circumstances, political boundaries, and cultural sensitivities. Researchers are developing new fields of inquiry, often stimulated by the capacity of new technologies to juxtapose research resources from diverse sources and disciplines, and to manipulate digital texts and images in new ways. Digitization transforms the discoverability and use of rare and special collections to a greater extent than it does for the general library collection. Once these collections are accessible, they become a core resource. Without digitization, rare and special collections remain obscure and hidden. While many libraries have procedures in place for participating in "mass digitization" projects, the needs of unique, rare, and non-print format materials require special consideration and different procedures. The project emphasises the discovery and creation and of digitized collections.

Scope

In the context of the development of information technology, it is seen that the traditional library resources are underutilised. There are a number of rare books and

manuscripts in many university libraries as well as in the libraries of colleges in Kerala. Many researchers do not have access or even any information about these valuable resources. By digitizing these works and giving access to this repository using KALNET the social dimension of dissemination of knowledge will be enhanced.

Digitization has profoundly changed the way we view library collections, services, and strategic planning. During this period, digitization process has proliferated in many forms at the international, national, local, and institutional levels. It reflects a set of

By digitizing these works and giving access to this repository using KALNET the social dimension of dissemination of knowledge will be enhanced.

best practices that have evolved. It includes new digital standards, digital preservation programmes which enhance and sometimes replace the standards in digitization.

In the first phase a network of the academic libraries of universities and colleges was developed by the Kerala State Higher Education Council to enable sharing of resources through a single search interface-KALNET. It provides bibliographic details of the collection and its location in these libraries.

In the second phase, the project aims at a detailed planning that addresses the specific needs related to the requirement for digitization of rare and special collections in universities and colleges and this will be made available in the KALNET.

The project will help professionals and non-professionals create sustainable and adaptable digital collections that will be re-useable and continue to have research value in future.

The digitization of rare and unique collections tends to be complex, because it is important to maintain physical, intellectual, and contextual relationships both within

the various parts of a single physical object, but also among the parts of the collection as a whole. It involves a special metadata as well as utilization of different discovery and use platforms.

Desired Outcomes of the Project

The government of Kerala is committed to the principle of equity and access in higher education. This project is one of the measures to reaffirm the above principles in the development of quality higher education in the conceived knowledge society.

This project will:

- Diligently continue and defend the library's obligation to preserve and provide access to the original materials.
- Provide free, worldwide access to research resources, and, when possible, provide users the ability to download digitized objects and collections.
- Be sensitive to the needs of scholars; encourage a dialogue with scholars and users; invite participation in the planning process.
- Strive for achievable outcomes, open access, improved preservation, and added value to collections when possible.
- Build on evolving best practices and successful projects; build quality control into all phases of the project, from initial planning to final evaluation.
- Preserve both the structure and context of the original, document which copy has been digitized, and maintain a link back to the catalogue record.
- Administer "on demand" requests in a way that adds to the growing body of accessible, digitized collections.

- Leverage digitization projects to provide access to collections that have been hidden in the past

project aims at a detailed planning that addresses the specific needs related to the requirement for digitization of rare and special collections in universities and colleges

Designing the Project

- **Vision for the Project**

i. The goal of this project is to facilitate general research access by providing access and preservation of rare books and collections

ii. It aims at building long-term comprehensive collections, delivery tools for the scholars to meet their immediate needs

iii. Aims at institution's increased visibility and stature.

iv. For effective project implementation, projects include scholars, users, administrators, library staff (cataloguers, curators, conservators) and technologists in the planning process.

v. Both internal and external funding sources may be explored

vi. Project envisages a phased development approach involving building good, robust, and usable resources involving user community of teachers, students and researchers.

vii. In house digitization may cause less risk of damage to original materials and ensure more control over the quality

viii. Using external service providers may provide expertise and better equipment, lower cost, and/or a faster completion time with guaranteed results.

Digitization: Selection of materials

The selection of original material is an essential task in the development of a digital collection and depends on the quality of manpower in libraries. Collections, works, editions, and copies are to be studied and checked against the scope of the new digital collection. Chronology, geography, author, subject, format, owner, etc. may also need to be considered.

The following alternatives can be considered:

- To digitize single, miscellaneous items (rare collection)
- To digitize an existing collection
- To create a new "virtual" collection (collection of items from different institutions that have something in common)

The design of new digital collection is determined by the goals of the institution, its functions, and intended users taking in to account the future development.

It is always preferable to digitize a complete intellectual entity, rather than part of it. Therefore, an entire book or document rather than a chapter or a page must be digitized.

Manuscripts and the majority of hand press books are unique items. Printed books may have significant variation within the same edition. Some copies will have specific interest because of a seal, manuscript annotations, or a bookplate. The number of editions and copies of the same work to be digitized must be decided according to the objectives of the institution and of the project, its public, and the available resources. At minimum, the best physical copy in hand should be selected for digitization.

It is always preferable to digitize a complete intellectual entity, rather than part of it. Therefore, an entire book or document rather than a chapter or a page must be digitized.

Issues related to Copyright

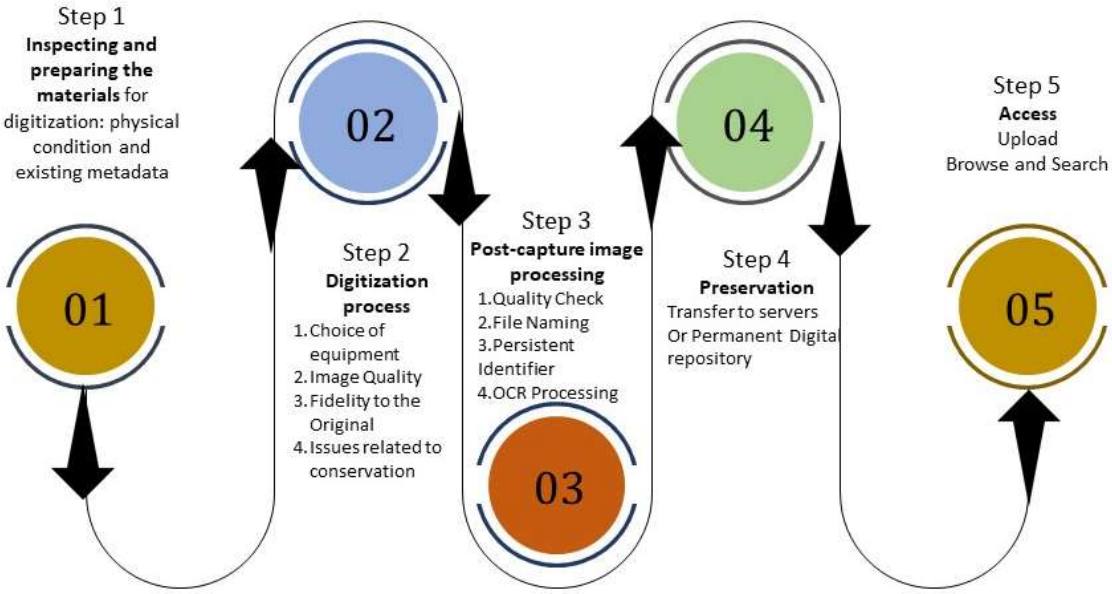
The digitization, dissemination, and reuse of collections depend on intellectual property and privacy issues related to the content; laws that regulate these issues vary significantly from country to country. Items that are in the public domain and those which are not must be identified, this activity should be accomplished when new physical collections are acquired for the institution.

Copyrighted materials can also be digitized under adjudicated regulations and agreements. Rights of ownership and "terms of use" are also very important in projects developed through agreements with collaborators and other third parties; they must be discussed and agreed upon in advance and in writing before the project starts. In addition, a digitized object can be considered a new edition in itself. As a result, the availability and terms of use for every digitized object and collection should be clearly stated to users.

Workflow to Create the Collection

The process of creating a digital collection can be broken down into various phases or steps. All of the processes should be adequately documented. If the general design of the project and the tasks of the participants are clearly defined and known, mistakes and misunderstandings can be prevented.

Project for Digitisation of Library Resources
& Development of Kerala Academic Library Network (KALNET)



Project for Digitization of Library Resources in Universities and Colleges in Kerala

Step 1: Inspecting and preparing the materials for digitization: physical condition and existing metadata

Materials that are to be digitized will usually be removed from their permanent storage location and their subsequent movements should be tracked as closely as possible. Fragile materials should be evaluated by a conservator to minimize the chances for physical damage during the digitization process. Scanning technicians should receive proper training to ensure the safe handling of the materials, and they should be instructed to notify a supervisor if an item could be damaged by the digitization process. All items should be inspected at the beginning and at the end of the process.

Librarians should evaluate if the current bibliographic metadata is adequate to support user discovery. The bibliographic metadata should be in a system that permits user searching and accommodates links to and from the digital surrogate. Cataloguing is an essential part of the creation of the collection, and it should include decisions about the protocol, level and detail of the description, and the language or languages in which it is going to be codified. As a minimum, there should be one description in the language of the main catalogue; translations to any other language could be added in order to participate in national and international projects and to provide wider access to the materials. Other multilingual tools or protocols can also enhance access to records. The length and depth of the descriptions should be balanced: their anticipated public and dissemination will influence these decisions. If adequate metadata do not exist, it should be created before digitization occurs.

In addition, adequate structural metadata should document the various physical parts of the object, and the object should be checked against the metadata to make sure that all of the parts are in order. Items should be foliated if necessary. Manuscripts should be

checked against the foliation. In the case of archives, the order of the folders in the boxes, and items in the folders, should be checked against the inventory or finding aid. Items to be omitted from digitization should be flagged.

Step 2: Digitization process

Choice of equipment

Digital capture equipment suitable for the items to be digitized and appropriate to the goals of the project must be used. High-resolution digital cameras are recommended for medieval manuscripts and other materials for which researchers will want to study minute details. A flatbed scanner is suited to modern photograph collections. Special book scanners can be used for a wide range of printed books.

Whenever possible, the same process should be used for an entire object to provide uniformity. Some of the automated equipment that has been developed for mass digitization projects may be inappropriate for digitizing rare and fragile materials due to the risk of damage.

Image Quality

Resolution, colour depth, and lighting should be decided by taking into account any specific standards and recommendations generally accepted for the particular material, requirements for the archival master, and the requirements of display and use, according to the general design of the project. Other elements of image quality to consider include colour saturation, image brightness, image integrity, and the absence of halos and other optical flaws.

If foldouts are photographed with different equipment, the images should be inserted into the proper sequence.

When planning capture resolutions, the storage space needed must be anticipated in advance, as well as the download time that researchers will experience. Institutions that

wish to digitize collections only once to accommodate current and future needs should consider capturing at 1.5 times above the currently desired final format. The higher the image quality, the more uses the file will have in the future.

Fidelity to the Original

When digitizing rare and unique material, it is important to preserve and recreate as much as possible the look and feel of the original object. The entire physical object should be captured and not just the intellectual content. It is necessary to photograph entire pages front and back (including beyond the edges) and not to crop images within the page edges.

Bound volumes should be photographed cover-to-cover, including flyleaves, empty pages, pastedowns and bindings (front and back covers and their interiors, the spine and the edges).

Whatever format is, the entire work or artefact should be reproduced. Special features (such as watermarks), on the other hand, are usually digitized with a different process and are often inserted at the end of the sequence or as a separate file.

To convey to the researcher the size of the original object, a linear scale should be included in the image. The orientation of pages within one binding unit should not be altered by image processing or turning the object.

During the image capture, scanning individual pages of books is usually preferred because it accommodates items with tight bindings and facilitates the display of pages with page-turning software. Scanning two facing pages sometimes may be necessary to display its content or preferred in order to maintain orientation and coherence; however this method can lead to indexing problems later on.

Paper or cardboard should be inserted behind damaged pages. Translucent pages should be backed with beige or white backgrounds to minimize “bleed-through”; some institutions use black for certain types of originals, but this method usually reduces the

contrast of the image. Most institutions attempt to use the same background for the entire project.

Colour is one of the most important and complex issues when attempting to recreate the look and feel of the original object. At least one selected page or image from an object should contain a colour target to facilitate colour calibration. Each piece of equipment should be calibrated to the same colour value standard (for example, the CIR-Lab system) and re-calibrated periodically. Display hardware should also be calibrated.

Issues related to conservation

Conflicts between requirements of image quality and preservation concerns are inevitable and should be worked out in advance. Many special materials such as manuscripts are unique, often priceless artefacts. Once digitized, however, a digital copy may help to ensure preservation of the original by serving as a surrogate. Digital files can also be used to create preservation microfilm of fragile originals.

Conservation issues to be considered for all projects—and especially in the case of out-sourced projects—include:

- The availability of trained conservators for consultation before and during digitization
- Control of environmental and security conditions during digitization and transport
- Use of special equipment to minimize damage (such as humidifiers, book cradles, etc.)
- Specific instructions and training for the scan operators, such as the appropriate opening angle for books and the appropriate handling of fragile objects

Conservators often disagree on the use of glass plates to keep the original flat during digital capture. Some consider the risk of damaged pages or spines to be too great. Others accept the practice. Newer manual book scanning devices are being developed

that minimize the pressure exerted by the glass plates. Unbinding volumes for any kind of reproduction is no longer considered a best practice.

All original materials should be returned to their permanent storage locations as soon as possible, after being carefully checked for possible losses or damages. All the movements of these items must be tracked and documented.

Step 3: Post-capture image processing and system ingest

Images should go through a post-capture quality control process to ensure the accuracy and integrity of the end product (with the help of calibrated monitors). Images that do not meet the quality standards of the project should be photographed again and replaced. Missing images should be supplied and inserted into the proper sequence. The structural metadata should be reviewed again and revised as necessary.

No image processing should be done at this stage other than colour correction. Institutions should have a policy about if, or when, colour correction is permitted. The policy should also indicate how information about post-capture image colour manipulation is communicated to the user.

File naming should be standardized according to institutional policy

File naming should be standardized according to institutional policy. Some institutions have developed file-naming policies designed to associate the digital file with the institution and/or with the physical object. Each digitized object should have a persistent identifier.

Some projects may also employ additional processes to enhance access and usability, such as Optical Character Recognition (OCR) processing, text mark-up, and/or the inclusion of geospatial coordinates.

Institutional watermarks hamper and prevent the use of images. If added, they should

not interfere with the main part of the image. Images should be transferred to staging servers for system ingest. At the appropriate time, the archival "master" images should be transferred to a permanent digital repository and deleted from workstations and other temporary storage devices.

These guidelines will not cover system ingest (the process for transferring digital images and metadata into management and discovery systems) because the process is dependent on local technology infrastructure and/or the requirements of specific digital repository technologies.

Metadata

Librarians have been using bibliographic metadata (cataloguing) and some types of structural and administrative metadata to manage and provide access to physical collections. Now librarians are creating updated metadata models that not only provide access to digital objects but that also provide the information needed for long-term preservation and to facilitate access in networked discovery systems. The following section describes four types of metadata appropriate to digital collections.

Bibliographic (or descriptive) metadata

Bibliographic metadata describes the physical object being digitized, including information about its intellectual content. All materials selected for digitization should have some bibliographic metadata before they are digitized. After the items are digitized, links should be added to the catalogue records pointing to the digital version, and from the digital version pointing back to the catalogue record.

These records should be created using accepted international standards and can be minimal level records or complete bibliographical records. As mentioned, physical description (more or less detailed) of the item or holding should also be created.

Each object should be addressed by a catalogue record in the online catalogue (it can be a collection-level record), which then can be mapped and/or harvested into other

systems. The resulting digital object can also have its own description in the catalogue if it is considered convenient or necessary.

Structural metadata

For studying complex objects such as medieval manuscripts, archives, correspondence, or photo albums, the researcher must be able to recreate (or reassemble) the physical item from the individual digital page images. Libraries that are digitizing medieval manuscripts and other similar complex objects should take care to provide excellent collation and other forms of structural metadata. At minimum, the researcher should be able to determine the original sequence of the pages or images. Older and newer foliations should be provided (if none existed, the book should be foliated prior to digitization). The total number of pages should be given as well as identifications of recto and verso. Other important elements include numbering schemes, textual divisions, important quotations, and illustrations.

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Image (or technical) metadata

The image metadata (sometimes called technical metadata) is usually captured automatically by the camera or scanner and appears in the header of the file. It should include:

- The length and width in pixels
- Sampling
- Compression
- Resolution
- Size in bytes
- Production information (such as the brand and model of the camera or scanner)

Date of creation If the image has been manipulated, this information must be included and accessible to the users.

Administrative metadata

Many libraries require additional administrative metadata to assist in managing access to the digital files. Administrative metadata might include the name of the photographer, the owner of the image or of the original item, copyright information, and credit lines. Administrative metadata might also include information about collection items that were not digitized and why, decisions made during the digitization process, and descriptions of routine image manipulation applied uniformly to the collection

Presentation Formats and Free Access

Users are looking for open and free access, easy discovery through common search engines, unproblematic interaction and display using standard web browsers and plug-ins, viewing options (including two-page display and zooming capabilities), tagging functionality (especially for later retrieval), individualized annotation capabilities, printing capabilities, and the ability to download, reuse, and combine. Presentation formats should be easily browsed, downloadable, and easily manipulated. Presentation files are usually created from the "master" files. The display and format of the files depends on the objectives of the project; for example, TIFF or JPEG 2000 files are appropriate when a high degree of zoom is needed by the user. The master high-resolution TIFF files are usually saved for archival purposes and not used for presentation because they are too large for rapid display and easy manipulation while JPEG and PDF are popular presentation formats.

The user should be informed if the presentation formats have been manipulated in any way (e.g. cropped). Secondary products of the digitization, such as fictitious or reconstructed editions for incomplete holdings should be clearly stated. Users should be able to easily determine where they are located in the document or collection, and should be able to return to logical places easily. At a minimum, strive to recreate the

reading room experience, and, if possible, go beyond with additional features. Clearly display to the user any copyright restrictions or other "terms of use." Consider using an established standard for conveying this information, such as a Creative Commons license.

In order to ensure persistent access to a resource, the use of

- Persistent Identifier (PI)
- PURL (Persistent Uniform Resource Locator)
- URN (Uniform Resource Name)
- DOI (Digital Object Identifier) or Handle.

Ease of Access for Stakeholders

Bibliographical descriptions of the digitized items and bibliographical records of the digitized files (if they have been created) should be included in the main catalogue and linked to the files. These descriptions will also be stored in the digital library system, and they should be linked back to the main catalogue.

Libraries can promote and advertise digital collections through the use of blogs and social networking sites as a way of reaching out to interested organizations and associations. Before sharing content with external services and aggregators, libraries would carefully review the "terms of participation" and legal rights of images to make sure that they do not conflict with library policies or other collaboration agreements already in place.

Libraries can provide annotations, commentary, and other important contextual information to add value to digitized collections and make them more useable. Newer distribution systems are offering technology to facilitate transcription, annotation, and image analysis.

The project has to be evaluated based on specific questions (feedback from users) regarding the digitization methodologies as well as the diffusion and impact of their digitization projects and programs. Several organizations have developed forms to facilitate the evaluation process. Statistics related to production and use can provide a

good starting point for quantitative evaluation, such as: the number of books/objects digitized, the number of visits to portal pages, the number of times a digital object is viewed and/or downloaded, the number of times it is cited or linked to, etc.

Preservation of Digital Collection

Strategies should be developed for preservation of digital collections, especially in light of the cost of digitization, the investment of staff, and the stress that is put on rare and unique materials. Preservation can be accomplished in-house, out-sourced to vendors or service organizations, or accomplished using a distributed, consortium model. Standard requirements are in place for Trusted Digital Repositories (TDRs). A trusted digital repository is defined as "one whose mission is to provide reliable, long-term access to managed digital resources to its customers, now and in the future."

but TDRs are difficult for most libraries to achieve on their own. A library should definitely maintain their digital collections in high resolution on regularly backed-up network servers and have processes and systems in place to monitor the integrity of the digital files over time. Storing multiple copies in geographically dispersed locations is also an accepted preservation strategy. A process should be in place for regularly evaluating the need to migrate the collection or emulate software functionality.

Phase I Completed (Details in Annexure I)

- Committees of Vice Chancellors/ Librarians for consultation
- KALNET portal created in KSHEC website.
- Data hosted on State Data Centre
- Participation of 14 universities-networking of 140 libraries.
- Data of more than 15 lakh collection
- Security Audit completed and Certificate Issued by State Data Centre (SDC)

Phase II Details

Phase II of the Digitization Project involves two major activities.

1. Digitization of existing library Resources

The entire library must be digitised. Agencies with technological expertise have to be identified and entrusted with this task. This will ensure effective utilization of the knowledge sources and these repositories of knowledge will be available to all sections of society. This is an effort to bridge the digital divide that causes uneven access to information and knowledge bases.

2. Project for Planning the Digitization of Rare Book and Manuscript Collections

The heritage of a society can be found in the manuscripts and it is crucial to preserve this form of knowledge so that the present and future scholars and researchers can benefit from such digital archives. Rare books as well as manuscripts must be made easily available in the public domain so that they will be utilized to the fullest extent and new knowledge will be produced.

- Identification of university wise rare books and manuscripts that have to be digitized.
- Use of the state of the art technology to digitize these sources. Institutional level arrangement for digitization will be facilitated within a definite time frame.

Annexure I

Kerala Academic Library Network: A Shared Platform for Academic Resources of Libraries in Kerala

Present Status

- ★ 11 Universities
- ★ 147 Libraries,
- ★ 15 Lakh Titles
- ★ Single search interface

The universities in Kerala have developed a rich collection of library resources over the past several decades. These resources are spread across various academic libraries in Kerala and so it is quite difficult for a user to visit the library catalogues of different universities separately in order to locate information for teaching and research. The Higher Education Council has come up with a solution to make this task easy by implementing a discovery service to enable single point access to the entire library resources of universities in Kerala called KALNET (Kerala Academic Library Network).

Based on the VuFind open source software, a team of library staff led by Calicut University are engaged in the development of this new generation search interface. Library data from various university libraries are combined to form a single interface which is not only fast but also has many advanced features. In the second phase the libraries of affiliated colleges will be linked to KALNET. KOHA a free software will be used for this.

Important features of the KALNET

- A single, unified catalogue to search for items across the collections of different academic libraries in Kerala.
- Quick searches based on the Title, Subject, Author, etc.

- Better integration of the Library's traditional print materials, electronic and digital collections.
- In addition to books, other library resources such as journals/periodicals, PhD theses, Postgraduate dissertations, Daisy Digital talking books (audio books) and various reports are also indexed.
- Advanced searching with Boolean operators and limits for more precise results, as well as a "Narrow Search" feature to limit, sort and refine the search results.
- A Virtual Browse feature for print books to see what's related to the book by subject area.
- When viewing a record, the user will be offered suggestions of resources that are similar to the current resource

Participating Universities (Partners in KALNET)

University of Kerala, Cochin University of Science and Technology, University of Calicut, Mahatma Gandhi University, Kerala Agricultural University, Kannur University, Sree Sankaracharya University, Malayalam University, Kerala Veterinary University, Kerala University of Fisheries, The National University of Advanced Legal Studies

Unlike traditional library catalogue, the open source based search interface offers various features like spelling suggestions, auto completion of queries. The main advantage of this search facility is the easiness of a single interface to search resources spread across 147 libraries in universities in Kerala. Recommendation of related topics and similar search tips help users to locate apt content. Vufind software is capable of integrating various resources and in the second phase the Higher Education Council of Kerala plans to provide live status of the availability of the library materials.

Proposal for a Library Network -Kerala Academic Libraries Network (KALNET)

In order to ensure, co-operation of the libraries attached to the higher education institutions it was decided to form a network in the State which would enable the sharing of resources among them.

KALNET linking the academic libraries of the universities and colleges came into being in February 2021.

Kerala Academic Libraries Network (KALNET) would consist of two levels

i) Libraries of a University to be networked and to be known by the name of the University eg: Library Network of University of Kerala to be known as KULNET.

   Each University Library and its department libraries will have completed its automation and creation of an Online Public Access Catalogue (OPAC).

   The University level networks will then be linked to form the KALNET.

ii) The second level would consist of the network of the affiliated college libraries which in turn would be linked to KALNET.

These networks would require a standardized software to ensure compatibility and the network is based on the open source software-KOHA and the search interface vuFind,

Present Status

Sl. No.	University	Collections in KALNET
1.	University of Kerala	5,07,313
2.	University of Calicut	3,21,526
3.	Cochin University of Science and Technology	1,84,221
4.	MG University	1,54,387
5.	Kerala Agricultural University	1,24,619
6.	Kannur University	82,863
7.	Sree Sankaracharya University of Sanskrit	73,902
8.	Thunchath Ezhuthachan Malayalam University	29,190
9.	Kerala Veterinary and Animal Sciences University	23,767
10.	Kerala University of Fisheries and Ocean Studies	15,751
11.	National University of Advanced Legal Studies	11,977
	Total Collection	**15,29,516**

APJ Abdul Kalam Technological University, Kalamandalam University, Kerala University of Health Sciences, Sree Narayana Guru Open University and Digital University are yet to join.

Therefore, it can be assumed that a first level of computerisation/networking is almost complete at the university level with each university having its own network and part of KALNET. The network is hosted in the State Data Centre with the technical support of the library staff of the University of Calicut. Security audit has yet to be completed.

Linking Colleges

The next step is to initiate the affiliated colleges to have a computerised database (preferably koha), a process that has to be taken up by the affiliating universities. Though some College libraries have well established computerised catalogue, work yet is to be done to computerise the collection of the other libraries. Once completed, the network of college libraries can be formed and also be linked to the KALNET.

Training is to be imparted to the library professionals to create a database based on koha software and a staff in each university to be given the responsibility to migrate the data of the college libraries and link it with KALNET.

Services to be Offered

KALNET should initiate Inter-library loans (ILL) and Document Delivery Services (DDS) from the comprehensive collection of the institutions under KALNET.

The services would be available only to those who have membership in the library (?)

Document Delivery Services

Document delivery is a library service which copies non-returnable literature required by library users, including book chapters, images, journal articles, manuscripts, maps, reports, and other library collections and then emails or sends them to library users through the universities.

Inter Library Loan

ILL would allow a library to borrow library materials, such as audios, books, journal articles, and videos, from other libraries in the library network for a specified time.

Method of Delivery of Materials

All the university libraries should have a designated section for document delivery to fulfill DDS/ILL requests from the libraries.

Users can request for documents that are not available in that library through their universities.

A borrowing library will send an online request to potential lending libraries. Each lending library in the system should have a total of 4 working days to respond to the request before it is passed on to the next lending library. The DDS/ILL system will

automatically forward the request in turn to the next lending library until the request is fulfilled.

After agreeing to supply the item, the lender library adds to the ILL record information concerning the restriction of use of the loaned item, the mode of delivery, due date and charges to be paid. In terms of level of service, as the system is library-to-library, this is negotiated between borrower library and lender library.

The process would involve Receipt of the request from the user identification and location of required document, procurement of document, copying the required portion of the document, if required, and delivering the original/copy of the required portion of the document to the user through the University Library.

The delivery from one library to another library could be either by post/courier or transmission of soft copy as e-mail attachment.

An account should be opened at each delivery centre with a minimal account(to be fixed)

In case of Inter Library Loan, the users can request only through their library and the copy of the book delivered at the requesting library will be available only for reference and not issued to the user. The copy should be returned back after the specified time. The costs should be borne by the user.

Project for Digitization of Library Resources & Development of Kerala Academic Library Network (KALNET)

Search interface for library resources for the stakeholders in higher education

A network of academic libraries of the universities and colleges for sharing of resources through KALNET, which has two levels (i) Libraries of Universities (ii) Libraries of affiliated colleges and later other HEIs.

<table>
<tr><th>Current Status/Tasks completed
Phase I</th><th colspan="2">Time-Frame & Achievable Target
Phase II
Early Gains</th><th>Outcome</th><th>Total Expenditure</th></tr>
<tr><td rowspan="2">• Committees of Vice Chancellors/ Librarians for consultation
• KALNET portal created in KSHEC website.
• Data hosted on State Data Centre
• Participation of 14 universities-networking of 140 libraries.
• Data of more than 15 lakh collection</td><td>Mar 31, 2022</td><td>Agencies involved</td><td rowspan="2">• Networking of 200 libraries of HEIs in the State & addition of library material from 15lakhs to 20 lakhs
• Better utlisation of library resources and increased access to students and faculty
• Digitization and Preservation of rare collections/special collections/manuscripts of university and other libraries</td><td rowspan="2">10 Crores</td></tr>
<tr><td>• Inclusion of 50+ colleges in to KALNET
• To include the research institutions like CDS and the units under KSCSTE
• Project for digitization of library resources in universities & colleges, other libraries
• (Software & Hardware Installation /Technical expertise/infrastructure and other expenses)</td><td>• KSHEC (implementing agency)
• Nodal officers at University, Colleges & University of Calicut</td></tr>
</table>

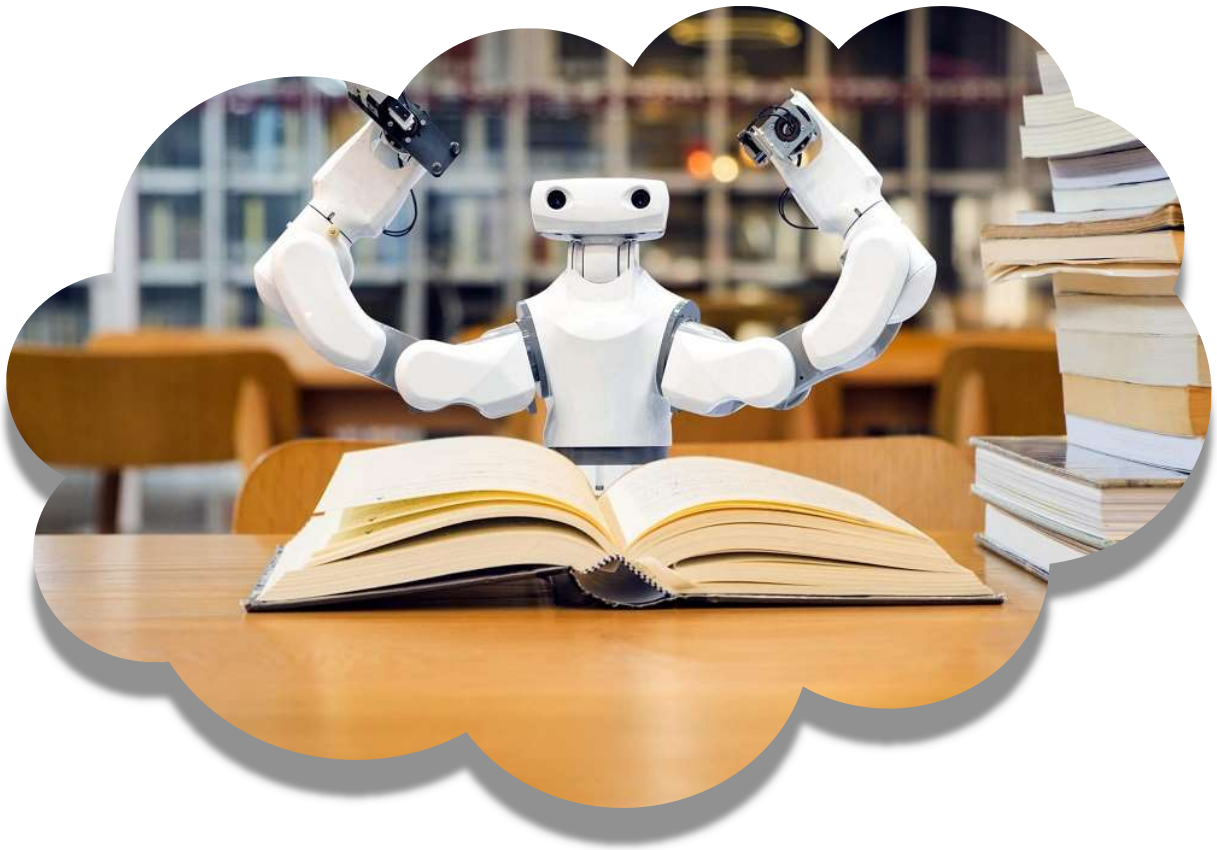
Project Digitisation

Financial Estimation (Anticipated)

Title of the Project	Total Expenditure
Project for Digitisation of Library Resources & Development of Kerala Academic Library Network (KALNET)	10 Crores

Expenditure Break Up

No.	Categories	Total Expenditure
1	Project Design and Architecture	25 lakhs
2	Software for Data Processing & Preservation	1 crore
3	Infrastructure/Hardware components	2 crores
4	Equipments for Digitization/Scanning	1 crore
5	Manpower cost for Digitization/Scanning	1 crore
6	Cost for New Education Materials in digital form	2 crores
7	Project Management and Administration	1 crore
8	Handling and procurement of rare collection and manuscripts	1 crore
9	Web Development (Design, Development, Integration and Testing)	30 lakhs
10	Expenses for training costs of library staff and others	30 lakhs
11	Maintenance and Support	15 lakhs
	Grand Total	**10 crores**



The Kerala State Higher Education Council

Equity Excellence

Kerala State Higher Education Council

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