DIGITAL ARCHIVE
OF
KERALA LEGISLATIVE ASSEMBLY PROCEEDINGS
TECHNICAL REPORT
Version 4.4

Centre for Informatics Research and Development

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&

CENTRE FOR INFORMATICS RESEARCH AND DEVELOPMENT

March 2007

DIGITAL ARCHIVE OF
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EXECUTIVE SUMMARY

A technical report on developing a Digital Library / Archives of Kerala Legislative Assembly Records consisting of the proceedings, reports and other documents related to the Travancore, Cochin, Travancore-Cochin and Kerala Legislative Councils and Assemblies from the year 1888 to 2011.

Major objectives of the project is ensuring conservation and safety of the rare and otherwise not available original authority Assembly documents, their efficient organization and management, speedy and effective dissemination of their content for the business of the Assembly, for the reference of the judiciary and government as well as for research on constitutional and parliamentary experiments and history.

Conversion of these records into digital form, Implementing a Digital Library System having specialized hardware and software that can ensure storage without any possibility of tampering or editing originals or digital copies, full text indexing, data basing and organization of digitized records as a functional digital library will form part of the project. During the later part of the Plan period a Digital Archiving Lab that can support conservation of knowledge heritage items of interest to the Legislature will be established as a second phase.

The estimate for the project includes costs for system study project envisioning and consultancy, cost of digital archiving of the documents from 1888 to the present and cost of acquiring hardware and software for Digital Library System. Total estimate is Rs. 1,30,36457 of which the digital archiving, data basing and full text indexing comes to Rs. 97,80,840 and Infrastructure development Rs. 30,00,000. The system study and project envisioning was already completed as support by CIRD an NGO consisting of experts from Library/Information Science, ICT, Language Technology, and Digital Archiving. The project will be spread through three financial years of the XInth Plan from 2007-2011. From 2011 Full Archives will be functional and accessible online.

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KERALA LEGISLATIVE ASSEMBLY PROCEEDINGS

A Project Envisioned by

Centre for Informatics Research and Development

0. Introduction

Project Proposal on development of a Digital Library / Archive of Kerala Legislative Assembly Proceedings consisting of the proceedings, reports and other documents related to the Travancore, Cochin, Travancore-Cochin and Kerala Legislative Councils and Assemblies from the year 1888 to 2011.

Conservation, organization and management of authentic copies of records is very important for government especially for the Legislature and Judiciary. Their efficiency and faultless functioning depends on the availability of these records in time. Government and other organizations have to retain their official and other records/publications for a variety of reasons like the following:

- To comply with laws and regulations that mandate records retention,
- To retain the “corporate memory” of activities and events that may be required to meet ongoing official business and historical needs, and
- To provide evidence/record precedence in the event of future functioning of government, legislature, judiciary, enquiries, and commissions of investigations etc.

All these necessitate ensuring the conservation / safety of the government records especially legislative and judicial documents as well as enabling speedy and efficient access to them. The present method for fulfilling these

functions cost effectively and efficiently is their digitization and organization as digital library with search and retrieval mechanisms.

Increasingly, digital records are defined in laws and regulations as being equal to traditional paper and micrographic records. This legal and regulatory evolution is recognition that the great majority of contemporary fixed content of business and public records are now “born” electronic or converted to an electronic format. A second factor is that the volume of this fixed-content or “reference” information is growing at 50-80% or so per year – a growth that is well beyond the ability of an ever-expanding number of organizations to continue relying on manual intensive paper formats as official records. Legislative Assembly Proceedings is a best example for this,

Along with these developments and new requirements hardware and software that can ensure retaining of authentic original documents without any possibility of tampering or editing has come into existence. Providing access to the data instantly after its final authorization has also become possible due to the current developments in ICT.

In these contexts Kerala Legislative Assembly also has to use Digital Archiving/ Library technologies to conserve the Assembly records and provide speedy and efficient access to it to the members.

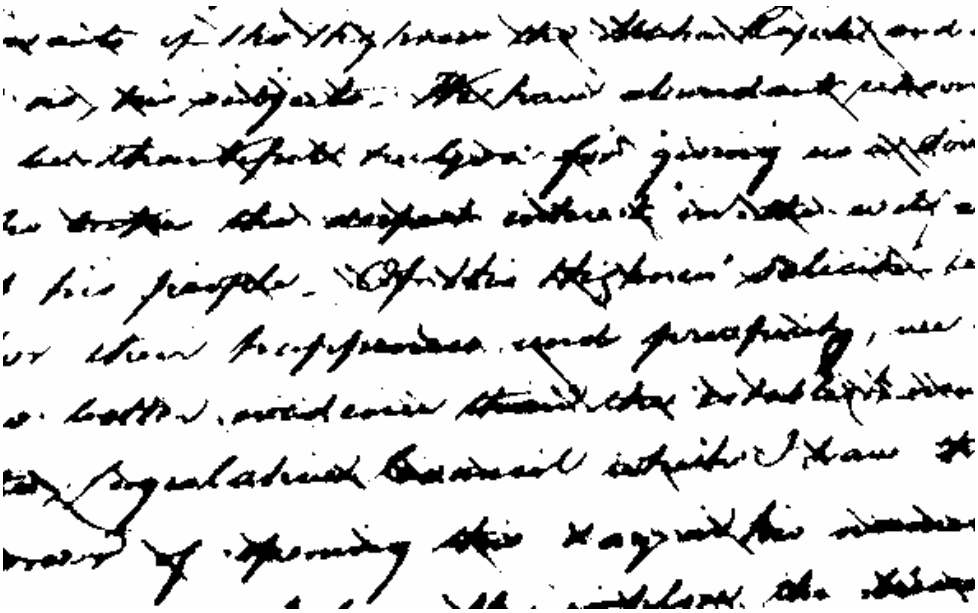
1. Historical Perspective

The Kerala Legislature had three parallel courses of development in the three regions of Travancore, Cochin and Malabar until they were merged together on 1st November, 1956 to form the State of Kerala. The Legislative history of Kerala dates back to 1888 when a Legislative Council was established in Travancore for the purpose of making laws and regulations. In 1904 the Maharaja-took another significant step to associate the people with the administration by creating the Travancore Sri Mulam Popular Assembly in addition to the Legislative Council. In 1933, the Travancore Legislature Reforms Regulation introduced a bicameral set up with the creation of a Lower House, Sri Mulam Assembly and an Upper House, the Sri Chitra State Council. The bicameral Legislature continued till September 1947. The new Assembly of 1948 called the Representative Body was to function as the Constituent Assembly of Travancore.

In Cochin State the first Legislative Council was inaugurated in April 1925. In 1948 adult franchise was introduced and the Legislative Council was termed as the Legislative Assembly. On 1st July 1949, the State of Travancore and Cochin were merged to form the United States of Travancore and Cochin. Malabar, which was a district of the Madras province under British rule, had representatives in the Madras Legislative Assembly from 1920's. Under the States Reorganization Act of 1956, Travancore-Cochin State and Malabar were united to form the State of Kerala on 1st November 1956. The first General Election to the Kerala Legislative Assembly was held in February-March 1957 and the First Kerala Legislative Assembly was constituted on 1st April 1957. The present Assembly is Twelfth in number and consists of 140 elected Members and one Member nominated by the Governor from the Anglo-Indian Community. The normal term of the Legislative Assembly is five years unless earlier dissolved.

1.1. Legislative Records

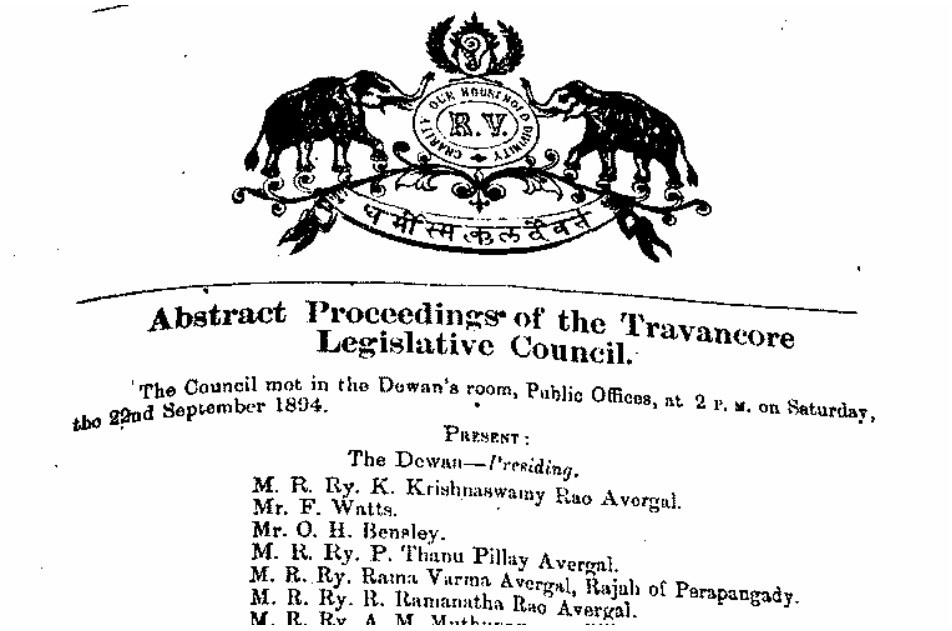
Legislative Records mainly consist of the deliberations of Legislative Councils/Assemblies called proceedings and also various Legislature Committee Reports. These documents are distinct from all other government records. The nature of the organization of their content, the periodicity of their issue, their importance as authoritative sources for legislative process etc are unique and they form one of the most important official records collection held by government / legislature.



Proceedings of Travancore Legislative Council 1888

The earlier documents are mainly hand written or typewritten. A few of them have only one existing copy. The paper on which the earlier proceedings are printed has become brittle and in many cases unreadable due to chemical effect on paper and discolorations. So it is very difficult to handle or consult them and providing them for reference is at the cost of their life. Three sample pages from different earlier proceedings are appended to this report. These are very rare documents and no other copy is available anywhere else and there is no alternate source for their content and verification of authority. The destruction of these precious documents will results in the loss of unique items related to the legislative heritage of Kerala. Nowadays most of the Legislative

proceedings are constantly in demand and are subjected to continuous Xeroxing. The frequent handling for reference as well as for Xeroxing of proceedings will gradually lead to the destruction of original documents. So we have to protect and preserve the original source. At the same time we have to make available their content for reference and use which cannot be prevented. The most cost effective and efficient methods of making content accessible and preserving original is digital archiving of those documents. After digitization original documents can be conserved without putting them into day-to-day use. With the support of conservation laboratory at Lucknow etc the originals can be strengthened for increasing their life as well as for enabling their display in legislative museums etc.



Abstract Proceedings of the Travancore Legislative Council.

The Council met in the Dewan's room, Public Offices, at 2 P. M. on Saturday, the 22nd September 1894.

PRESENT:

The Dewan—*Presiding.*
M. R. Ry. K. Krishnaswamy Rao Avergal.
Mr. F. Watts.
Mr. O. H. Bensley.
M. R. Ry. P. Thanu Pillay Avergal.
M. R. Ry. Rama Varma Avergal, Rajah of Parapangady.
M. R. Ry. R. Ramanatha Rao Avergal.
M. R. Ry. A. M. Muthu...

Proceedings of Travancore Legislative Council 1894

An authentic digital version will become accessible in a more efficient way to the users without any restrictions.

The master copy of the digital archive can be kept at a safe and secure place. The digitized documents will be accessible to everyone through Kerala Legislative Assembly (KLA) Local Area Network (LAN). Anyone from any section in the Legislature like Editing, Legislation, Question, Table Section, Committees etc can take printout of any page from a digitized document

through any LAN terminal within seconds. It will be accessible at the members residence, constituency and in all the terminals available in the Legislature Secretariat connected to its Intranet.

1.2. Need for Digital Archiving of Assembly Proceedings

Retrieving relevant information from unconventional publications like Legislative Proceedings and Committee Reports is a very difficult task. Over the years, the legislative documents are accumulated in thousands of volumes without their proper organization, bibliographic control and indexing of their content.

Even though access to the contents of Legislative Documents is very difficult using manual methods, Speaker, Ministers, Legislators and officials who need information from these documents have to consult them very frequently. In the legislative process and day-to-day functioning of the Legislature these documents have to be consulted more frequently. As the quantum of Legislative documents is growing, retrieving relevant information from these documents is becoming more and more difficult and complex. Unless elaborate and in-depth indexes of the contents are prepared majority of relevant content will go unnoticed when information is retrieved and provided to members. It can affect their efficiency and resultantly the quality of legislative process. But manual in depth indexing will be unaffordable by its cost. Traditional indexing slip if used for full text indexing will grow into large mass creating problems for their organization and maintenance. This will also not solve the problem of the conservation. So digital conversion of original and the computerized indexing of full-text of Legislative Documents is the only available solution for conservation, and efficient content organization and retrieval.

1.3 Benefits of Digital Archives of KLA Proceedings

Creation of digital archives of legislative documents can solve these problems. Searching into the documents/ full text of the Assembly proceedings will become speedy and efficient. Any required information from the digitized collection will be at the fingertip of members, staff and everyone who needs it. To enable this Legislature has to develop digital archives of its records /

content / especially Assembly Proceedings. This involves converting paper documents of all types and languages from the Council / Assembly proceedings into machine-readable format and interfacing them with a powerful search mechanism having multilingual/script search capability. The search engine will search and retrieve relevant information, the specific page in which the required information occurs from a vast digital archive of millions of pages in seconds.

Benefits of Digitization can be listed as follows:

- The most obvious advantage of digitization is that it enables broader and enhanced access to a wider community.
- Original documents can be preserved very efficiently in safe conditions, can be protected from careless use and those documents that require strengthening can be put for conservation work.
- The digital version of Legislative Documents which are exact replica of their pages can be provided for unrestricted use.
- All daily browsing and references can be met electronically from digital archive. A digitally stored document will never deteriorate even if thousands of people use it for any length of time.
- Selective and speedy access to information is assured.
- Research scholars, Lawyers and public at large will be in need of legislative documents to meet their research, legal and administrative requirements. To meet such requirements they can be supplied with print outs or digital copies of concerned portion of the document on payment basis.
- Members can consult the full text of the Legislative Documents from their home or at any place during their travel, where internet connection is available.

1.4. Types of Legislative Documents to be Digitized

The digital archive can cover the following type of documents

- Legislative proceeding from 1888 onwards.
- Legislature Committee Reports.
- Rulings from the chair.

Of the current and future Kerala Legislative Assembly Proceedings the content at the following stages as well as different formats can be kept in the digital storage systems with permissions restricted to different stages only to the concerned who are to edit or approve/access them.

- Audio Files of Proceedings
- Video Files of Proceedings
- Draft Pages prepared by Editing Section
- Approved Pages of Proceedings
- Final Offset Copy approved for sending to the Press.

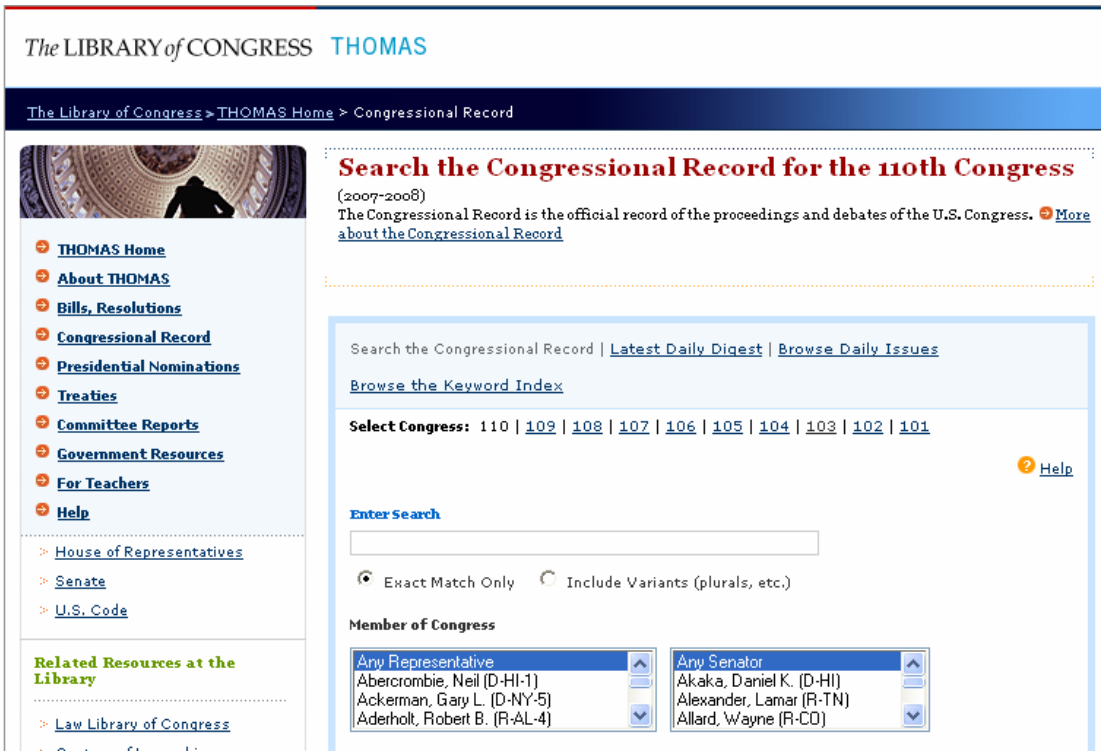
These files can be used for Cross Checking/Instant Updating when systems meant for that like editing/publishing are attached to the digital Library system. After the final offset pages are sent to the press it will take minimum three to five years to get them printed. If a digital Library system is used from the day of approval of the final pages for printing the proceedings can be made accessible through the digital Library.

1.5. Digital Archive Models

The details of the collection of Assembly Records available in Kerala Legislative Assembly given above shows that the quantum and quality of these records is comparable to that of any Parliament or Legislature of India or other countries. They are of great value to the functioning of the legislature and judiciary as well as are of research value for those studying, history and polity of the region. Such records of most of the legislatures / Parliaments in Advanced countries are already digitized. They are making it accessible worldwide and the reference has become easy and efficient. Already Andhra

Pradesh Legislative Assembly has attempted the digitization of their proceedings. The following are three examples on which the project proposal for Digital Archives of Kerala Legislative Assembly Proceedings are modeled.

1.5.1. US Congressional Record



Front end of US Congressional Records Archives

Congressional Records is organized in a helpful order in their traditional and digital archives. The official records of House and Senate actions are kept in their respective journals, but a fuller record of proceedings is kept in the Congressional Record, which has been published by the Government Printing Office (GPO) since 1873. GPO publishes new issues of the record daily and transmits each new issue to the Library of Congress overnight. A new issue becomes available at the library on the following morning.

Issues are available online from 1989 (the 101st Congress) to the present. The Digital Archives of the congress accessible through the web site provides

access to proceedings up to one day before the search is made. That is yesterday's proceedings will be available for use today.

Before 1873, records of congressional proceedings were kept under various titles: Annals of Congress, Register of Debates and Congressional Globe. These are available in the digital Library for Intranet access. The Congressional Record is, to a large extent, a *verbatim* account of the floor proceedings of the House and Senate. Each daily issue consists of four parts:

- House of Representatives
- Senate
- Extensions of Remarks (text not actually part of floor activity but inserted later)
- Daily Digest (a summary of the day's activities in both chambers)

After the end of each session, a permanent final version of the record is prepared. In this version, the pagination is continuous, without any section designations, and there is some editing and re-arrangement. Congressional Record files available next day on Digital Archives represent the daily edition, not the final.

House and Senate Parts contain debates and statements made on the floor of each chamber, as well as records of various parliamentary actions and roll call votes. In addition, it contains communications from the president and the executive branch, memorials, petitions and information about legislation, including amendments. Committee activities are not reported here, though mention is made of reports received and meeting notices. Conference committee reports are typically printed in the record. Members are allowed to edit the transcript of their floor remarks before publication in the daily record or the permanent record.

Extensions of Remarks section is now used only by representatives to include additional legislative statements not actually delivered on the House floor, as well as extraneous material, such as texts of speeches delivered outside Congress, letters from and tributes to constituents and newspaper or magazine articles. Similar extraneous material from senators is inserted in the Additional Statements section of the Senate part of the record.

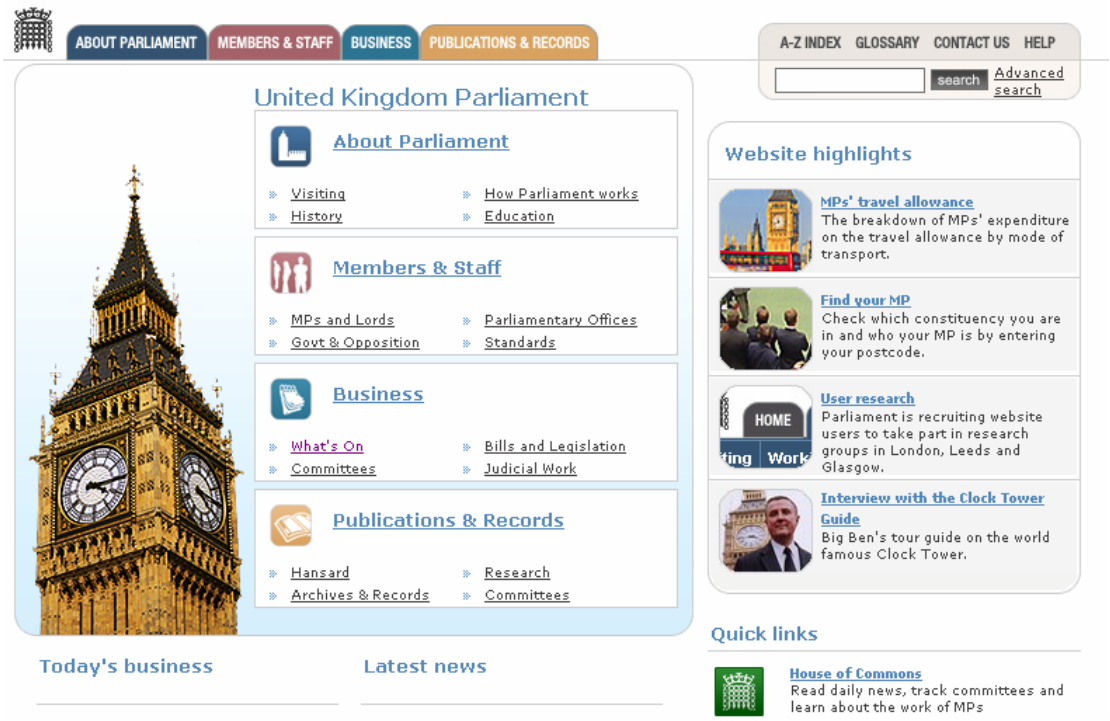
Daily Digest section provides a concise summary of the day's congressional activity. Typically, it is organized under these headings:

- Highlights
- Senate Chamber Actions
- Senate Committee Meetings
- House Chamber Actions
- House Committee Meetings
- Committee Meetings Scheduled for the Following Day

Friday (or the last legislative day of the week) issues contain a section titled Congressional Program Ahead, which outlines the plans of each chamber and its committees for the upcoming week.

1.5.2 UK Parliament Proceedings

Hansard is a report of both oral and written parliamentary proceedings. Its origins go back to the 17th century, when unofficial – and often suppressed – printings of debates in Parliament began production. Suppression stopped in 1771 following a legal battle by John Wilkes MP. In 1803, William Cobbett started printing records of debates, simply called 'Debates'. It was the first organized attempt to record proceedings. Due to insolvency, Cobbett sold the contract for Debates in 1812 to Thomas Curson Hansard, son of Luke Hansard, the British Government's printer (although Thomas' business was independent). Hansard put his name on the report in 1829. Operation of Hansard was taken over by the House of Commons in 1909 and it was given the title 'Official Report'. Today, Hansard provides a clear and independent record of proceedings in the Chamber of the House of Commons, the sub-chamber in Westminster Hall and House of Commons Standing Committees. Hansard is a full report in the first person, of all speakers although it does not always report every word said by a Member.



Front End of US Congressional UK Parliament Proceedings Archives

The origins of today's Hansard can be traced back to the early years of the nineteenth century. However, it has only been considered a truly authoritative account of Parliament's proceedings since the latter part of the nineteenth century.

Hansard produces a variety of versions of their reports. Daily Part is the best known and tends to be the most widely used. It appears each morning and carries an account of the previous day's proceedings. Weekly Hansard is an uncorrected binding together of a week's daily parts, and it is made available on the Monday of the following week. Bound Volume the final, definitive version is the fortnightly green bound volume. This is scheduled to appear 92 working days after the event. The bound volumes are the archive set and incorporate corrections from the daily part (no corrections are made in the weekly edition). A cumulative index to the whole Session is published as the last bound volume of each Session. Occasionally, if exceptionally long sittings or large numbers of written answers have occurred, a daily part has to be split and a part II or part III issued. Hansard produces three versions of the reports of Standing Committees. The first is the equivalent of the daily part. Later, a soft-bound

collation of all the daily part reports on an entire Bill is produced. Eventually, a case bound volume of the reports is published in a brown cover. There is no “Hansard” published for Select Committees. Instead, minutes of evidence are published by the Committee and form part of the Committee’s report. Uncorrected transcripts of evidence are also published; this is usually available on the next day for evidence given by Ministers.

The Official Report is currently available on the Parliamentary website from 8am on the day following the sitting. Proceedings are available from October 1988 for Commons debates, and Standing Committee debates are available since November 1997. The bound volume is also available on CD-Rom.

Digital Archives of UK Parliament Consists of six series of parliamentary debates. Its printed equivalents are also available. They are the Official Report 1st Cobbett's Parliamentary Debates: Vol 1 (1803) to 22 (Mar/May 1812) continued by The Parliamentary Debates, Vol 23 (May/June 1812) to Vol 41 (Feb 1820). Some sets were reissued with the title of Volumes 1 to 22 as The Parliamentary Debates. 2nd The Parliamentary Debates, New Series Vol 1 (April 1820) to Vol 25 (July 1830). 3rd Hansard's Parliamentary Debates (3rd Series) Vol 1 (Oct 1830) to Vol 356 (August 1891), 4th the Parliamentary Debates (4th Series) Vol 1 (February 1892) to Vol 199 (December 1908), 5th the Official Report, House of Commons (5th Series) Vol 1 (Jan 1909) to Vol 1000 (March 1981). The name Hansard was officially restituted in 1941, 6th The Official Report, House of Commons (6th Series) Vol 1 (March 1981)

2. Digital Archive/Library: Hardware/Software

The digital archive can be kept in a Digital Library and access can be provided through the Intranet of Kerala legislative Assembly Secretariat (KLALAN).

The hardware and software used for Digital Library will consist of three types of storage mechanisms for the categories of materials specified below giving consideration to the cost of systems and the use of materials to be stored.

- Most highly used materials: (Assembly proceedings from 1980 to present time)
- Middle level used materials: (Assembly proceedings from 1957 to 1979 and Legislative Committee Reports.)
- Less used materials: (Proceedings from 1888 to 1956)

For highly used materials a Mirror Server will be used. For middle level used materials a CD server with CD drives will be used. For less and rarely used materials a juke box with required number of CD slots and two or three DVD readable drives and one writable DVD drive will be used.

Digital Archives of Assembly proceedings consisting of text, audio, video and other files will be spread through a JVC juke box with 600 CD capacity (640 GB), a TODD CD Server; drive based of 100 drive (64 GB) and hard disk based of Meridian 100 GB Server, all the three forming the digital library storage facility of the Kerala legislative Assembly connected to its Intranet. These are to be installed and customized under the consultancy of a group like CIRD consisting of multi specialty teams from library and ICT related fields and senior librarians having prior experience in installing such systems.

2.1. Less Used Content

For less and rarely used materials like the proceedings of the Travancore Legislative Council records of earlier period, committee reports of earlier assemblies, rules of Procedures, Select Decisions from Chair etc costly user hardware for storage systems are not essential when their cost is considered such items which are of archival and research value only speed in retrieval is not an important factor. But their conservation is important. Manual handling of digital copies is also not advisable. For such items there are library hardware and soft ware which helps storing digital copies in book shelf like mechanisms with provision for mechanical retrieval and transfer to one or two readable drivers activated in this connection to the storage rack.

JVC Jukebox a DVD based storage device can offer a great deal in terms of mass storage. It is designed to provide a clean, secure housing for disc media, without being over- engineered. The robotic mechanism itself is very straightforward and hence reliable. The libraries are available in different sizes, with varying storage capacities. The clean lines of the enclosure hide a mechanical construction which is both robust yet light, and which has been geared for heavy network traffic. Therefore the DVD jukebox is a prime candidate for use in large-scale storage requirements. All operational controls are available from the front panel. Bulk loading is provided in the form of compact magazines each holding 50 discs, whilst a "letter box" mechanism allows for the easy insertion and removal of individual discs. For Kerala Legislative Assembly 600 CD Capacity will be sufficient for the initial phase.

2.2. Middle level Used Content

It is advisable to keep not so frequently used materials but important documents and video, audio files etc as readily accessible CDs. For this more speed than juke box systems is essential. For such content CD Library systems servers are commonly used.

CD/DVD Server provides access to CD/DVD-ROM applications anytime, anywhere. Combining the power of an enterprise-class CD/DVD-ROM

networking system with the manageability and ease of use of a thin server, the CD/DVD Server can give thin client access to CD/DVD-ROM applications via the Internet and wide area network- as well as across any intranet or LAN. Users can access CDs and DVDs from any workstation- CD/DVD Servers are platform independent. Meridian 100 CD Capacity Server is recommended. It can give CD-R capability, Macintosh HFS support, and all management and administration tools in one location, including application metering & queuing, license control custom menu structure and group access permissions.

2.3. Highly Used Content

For the records that were highly used speedy and efficient storage and server systems are to be used. Assembly proceedings being in-house publications demand from users will start immediately after the session is over. In USA, UK etc the proceedings become available in the net in two days after the session. With digital storage system available Kerala Legislature also can make the proceedings accessible at least in the Intranet once when the copy of the proceedings to be sent to press is finalized. The versions of the different stages can be maintained and made accessible for prescribed time and can be shred away from the system without harming remaining content as and when necessary. For these functions various choices are there for selecting systems subject to availability of funds.

2.3.1 Optical Library System with UDO Drives

Archiving Kerala legislative Assembly Proceedings and providing access to it to the members and keeping it up-to-date as done by US Congress, UK Parliament and legislatures of many advanced countries require data archiving systems of increased flexibility to comply with the different stages like archiving the version at editing stage, the version approved for sending to the press, the printed version etc that can enable record retention and disposition, to control operational risks, to minimize error possibility and fully exploit information assets. Hence one optical library system that uses Ultra Density Optical (UDO) Write Once and Re writable media formats specially designed for

diverse archive requirements can be used. UDO technology has become the current industry standard for library/archival storage with compelling benefits over magnetic disk and tape based archives UDO offers the added advantages of three media formats to meet the evolving demands of professional archives and libraries. UDO Re writable, True write Once and Compliant Write Once media formats each provide a unique set of attributes built to accommodate specific record library / archive requirements.

So far highly used records and for those to which access to different versions/stages of production is to be provided Optical Libraries using UDO drives are recommended. It can give the legislature Library a truly responsive library storage strategy.

2.3.2 Multi-Functional Storage Solutions

For storage of digitized Kerala Legislative Assembly Proceedings at the initial phase a Multifunction, high capacity high-speed data access / storage server designed for the Microsoft Windows NT Server platform can be used. It should be customizable and should support configurations ranging from a minimum 14 network CD-ROMs to system configurations supporting hard drive caching of at least 375 CD-ROMs simultaneously.

It should extend the library with the performance, capacity and flexibility to provide a variety of storage solutions within one system. It should be able to configure mixed CD, DVD and hard disk media storage on the Libary LAN to address the specific needs for file storage and CD Networking, as well as providing for a secure platform for network applications such as an intranet, print server or network backup controller.

The Multifunctional Server should also provide a hard drive caching feature that improves random access times 600% or more (under 10ms) while increasing sustained data transfer rates 100% or more (over 8MB per second). Caching CDs on hard disk optimizes performance for data-intensive applications such as multi-media, and allows the end user to experience smooth playback.

Such Servers can be configured in either as a free-standing tower or sturdy rack mountable modules which are designed for industry-standard 19" rack systems. The rack mount modules include options for dual redundant hot-swappable power supplies and fans and hot-swappable drive bays. The server should be able to be configured with the CD jukeboxes to increase the storage capacity by the amount of space the CDs in the Juke box can cover.

Many of such systems availble combines multiple CD-ROM, DVD-ROM and hard drives with CD-Networking software to provide the functionality of a CD/DVD server, storage server and Intranet server in a single network storage solution. It is a cost-effective and flexible solution for storing collections like Assembly Proceedings.

At the initial phase when only limited reocrds/content will be availble in digital form rather than purchasing several different types storage systems, Kerala Legislature Library can expand applications for the Internet, solve the need for CD-ROM networking, increase data storage and run high-demand applications, such as multimedia, with a single, powerful multi-functional network storage server and a Multfunctional software that can handle all thes apsects.

2.3.2. Mirror Server

CD ROM mirror server that can cache up to data from 100 CDs or 200 CDs can be used as a cheap solution at the initial stage or till Legislative Library acquires an optical Library using UDO drives.

2.4 Digital Archives/Library Network Software

The CD Networking software to be used should be Windows NT compatible and should to provide high-end CD and DVD system management, networking and performance acceleration capabilities. Multi-functional Servers offers the functionality of a data storage server by combining multiple CD-ROM, DVD-ROM and hard drives in a single network server solution to offer multiple end users access to more than half a terabyte (500GB) of data capacity.

To increase the performance of optical drives, CD Networking software are availble which provides a hard drive caching feature in the Server for high-demand applications. This software feature allows administrators to cache CD data to hard drive media and improve random access times by 600 percent and sustained transfer rates by 90 percent over high-speed CD-ROM drives.

Most of the Multi-functional Servers runs on Microsoft's Windows NT Server platform which provides substantial third-party application support as well as built-in Redundant Array of Inexpensive Disks (RAID). The built-in RAID feature of Windows NT Servers further boosts the performance and increases the reliability of Multi-functional Servers. Windows NT Server platform also includes the Microsoft IIS WEB server that can be configured with CD IntraNet software to offer CD and DVD access from any Web browser using a point-and-click interface. CD Net software to be used with Multifunctional servers should integrates CD-ROM and DVD-ROM optical drives with the Windows NT Server file system for network security, multiple protocols and high-performance RAM cache. When new compact discs are inserted, Data's software should automatically create a logical network volume as a standard NT share. The server should present CDs or DVDs as standard network volumes which may be accessed from any compatible network client, including WEB browsers. The software should have an ability to flexibly group multiple CD-ROM and DVD-ROM drives into a single logical volume for the network. The CD IntraNet software, should allow users to access any kind of CD title from within Web browers on intranets. A sample Diagram of digital Archives sored for access in network is provided in the next page.

2.5. Software Standards and Scaleablity

The system and solutions developed should also be scaleable to applications that may be using Semantic Web based technologies that is being adopted in most of the libraries in advanced countries. Semantic Web is an evolving extension of the World Wide Web in which web content can not only be expressed in natural language, but also in a form that can be understood, interpreted and used by software agents, thus permitting them to find, share and integrate information more easily. It derives from W3C director Tim

Digital Archives / Library Kept Using
Multifunctional Storage Systems in Intranet: A Model

Berners-Lee's vision of the Web as a universal medium for data, information, and knowledge exchange. At its core, the Semantic Web comprises a philosophy, a set of design principles, collaborative working groups, and a variety of enabling technologies. Some elements of the Semantic Web are expressed as prospective future possibilities that have yet to be implemented or realized. Other elements of the Semantic Web are expressed in formal specifications. Some of these include Resource Description Framework (RDF), a variety of data interchange formats (e.g RDF/XML, N3, Turtle, N-Triples), and notations such as RDF Schema (RDFS) and the Web Ontology Language (OWL). All of which are intended to formally describe concepts, terms, and relationships within a given problem domain.

Most of the libraries are alo establihing institutioal repositoreis using open source software like Greenstone, Dspace, Gen ISIS, E-Print etc. So the system developed shol follow the meta data standards accepted by open archives movements to eanble the library to export different parts of the archives to different system according to the needs that may arise future.

3. Digital Archiving Processes

Digitization is the process by which analogue content is converted into a sequence of 1s (ones) and 0s (zeros) and put into a binary code to be read by computer. Digital information also has common characteristics and qualities, regardless of whether the content is stored on hard disks, DVD, CD or other secondary digital storage media. Digitized content can be linked to other related materials by hyper text and hyper media processes. It can be stored and delivered in a variety of ways and can be copied limitless number of times without degrading the original. Digital data can be compressed for storage. The digital content can be browsed easily, and can be searched, indexed, book marked and collated instantly. Most important, it can be linked to a 'web' of other contents either locally or globally via the Internet. The development of 'Digital Libraries' has made information storage, dissemination and access faster and flexible.

Proceedings of Legislature are its own property. Legislature is responsible for their recording, editing, authentication and publishing. It is the one and only reliable possessor of complete proceedings. Hence providing easy access to these collections to members as well as the public is a responsibility that it only can undertake. By providing access to such collections through a national network such Digitized collection from other State Legislature and Parliament can be shared on mutual agreement.

3.1 Language and Script

Nearly 6.2 lakh printed pages of Kerala Legislative Assembly Proceedings are available. The language of majority of them is Malayalam. Nearly 75000 pages are in English, Tamil and Kannada. Documents of earlier years are in handwritten form. Of the documents 75% are in old original Malayalam Script.

So for any digitization program the package used should be able to handle Original Malayalam Script as well as modern Malayalam Script and English and Tamil Scripts. So any digital library or archive development solution that is used should be multilingual programme.

3.2 Methodology

The traditional card catalogue in the library and its electronic counter part OPAC (Open Public Access Catalogue) achieves document retrieval for reference. Using them a member can find out if a book by a specific author is available, a book of specified title is available or if a book on a specific subject is available. Like that member can also understand if the Legislative Assembly proceeding of a particular Assembly or a specific date is available or not. But using them a member can not understand or confirm if an article on a specific topic, or an article by a specific author or talk by a specific member in the assembly or a talk on a specific subject in the assembly is available in the legislature or not and if available in which volume. In digital Library all these can be confirmed and in seconds after the confirmation the full text of the concerned document or the concerned page can be retrieved in the terminal used by the member. Digital Archiving aims to achieve full text retrieval of the documents. Process of digital archiving has got the following two important components.

- Digitization of all the pages of documents in a format of internationally accepted library standard.
- Developing a database of documents using metadata/bibliographic data and index of contents.

3.3. Digitization Process

The pages of proceedings are scanned using flatbed scanners and saved to PDF format. PDF (Portable Document Format) by Adobe Acrobat is the most popular format used for e-book/e-paper solutions by major publishers and libraries worldwide. Majority of digital archives in the world and in the net are in PDF format. Adobe PDF reader is available free of cost and is packaged with

the software made available with every computer system. After scanning digitized pages of the proceedings are organized (titled, cropped and bound) into the electronic book which should be very similar to hard copy of the proceedings.

After organizing the proceedings document into e-book its contents like Question–Answers, Adjournment Motion, Calling Attention, Submission, Financial and Legislative business, Points of Order, Rulings etc are made easily navigatable with a single mouse click. For this the entire proceedings requires to be book marked which is an important step in the e-document organization. Finally the text is subjected to OCR (Optical Character Recognition) for search using any word/phrase in the document. At present this is only possible for English documents. The language technology available for Indian languages is inept for OCR for the time being. Malayalam Language Technology is under development. So when we develop digital archives of Malayalam documents the mechanisms used should be Unicode compliable so that future scaling up of the system to harness these possibilities

3.4. Database and Search Mechanism

Digital collection of proceedings will be useless without a proper retrieval system. A particular day's proceedings bears many access points like the business transacted, bills introduced, papers laid on the table, reports and budget presented, motions moved, special discussions held, allegations raised, rulings given, name of member, subject of discussion etc etc. All these aspects should be structured into a database without which the digital files of proceedings would be a useless dumping of documents in a collection from which retrieval will be difficult as from an unorganized printed document collection. So a front end database needs to be developed in some popular RDBMS like MS Access, My SQL, MS SQL, Oracle etc or in a programme like CDS/ISIS developed specially for development of such documentation and information systems.

3.5. Digital Archives User Interface

User Interface of any Digital Archives/ Library of Legislative Assembly proceedings should exhibit 4 distinct areas (static windows in the computer screen) for Dictionary, Query and Minimum and Elaborate bibliographic details. Dictionary should contain searchable terms arranged under different categories such as business, date, member, subject, etc. Number and type depends on the type and characteristics of the collection. It should enable selection of Search terms from the dictionary by a few alphabetical strokes. Clicking in the dictionary, should transform terms to `Query' area. Formulated queries using Boolean/proximity operators should be possible. The programme should submit Queries to search and results should be exhibited first with minimum details and then in full bibliographic details. When the 'Full Text' button is clicked, the full text of the concerned Assembly proceedings or report or question-answer should open in Acrobat Reader and thereafter it should be able for the user to navigate by using bookmarks and other hyper links.

Paradigm used to develop the Digital Archives should be the same as user approach to books in traditional archives and libraries. The same is illustrated in the diagram given in next page. When a user enters a library, he goes to the catalogue first and searches under appropriate access points such as author, title, subject, etc. This enables the user to get the documents he wants. He locates relevant chapters/pages of the book with the help of table of contents and index. In the same way, when one opens the Digital Archives in his computer or through Intranet or Internet, a dictionary of keywords similar to traditional catalogue should appear. Terms in the dictionary should become available to form queries. Search should yield hit of relevant documents with bibliographic details. Full text should then open and he should be able to navigate the entire text through bookmarks. The traditional Library/ Archives - and Digital Library/Archives analogy is explained in the diagram given in the

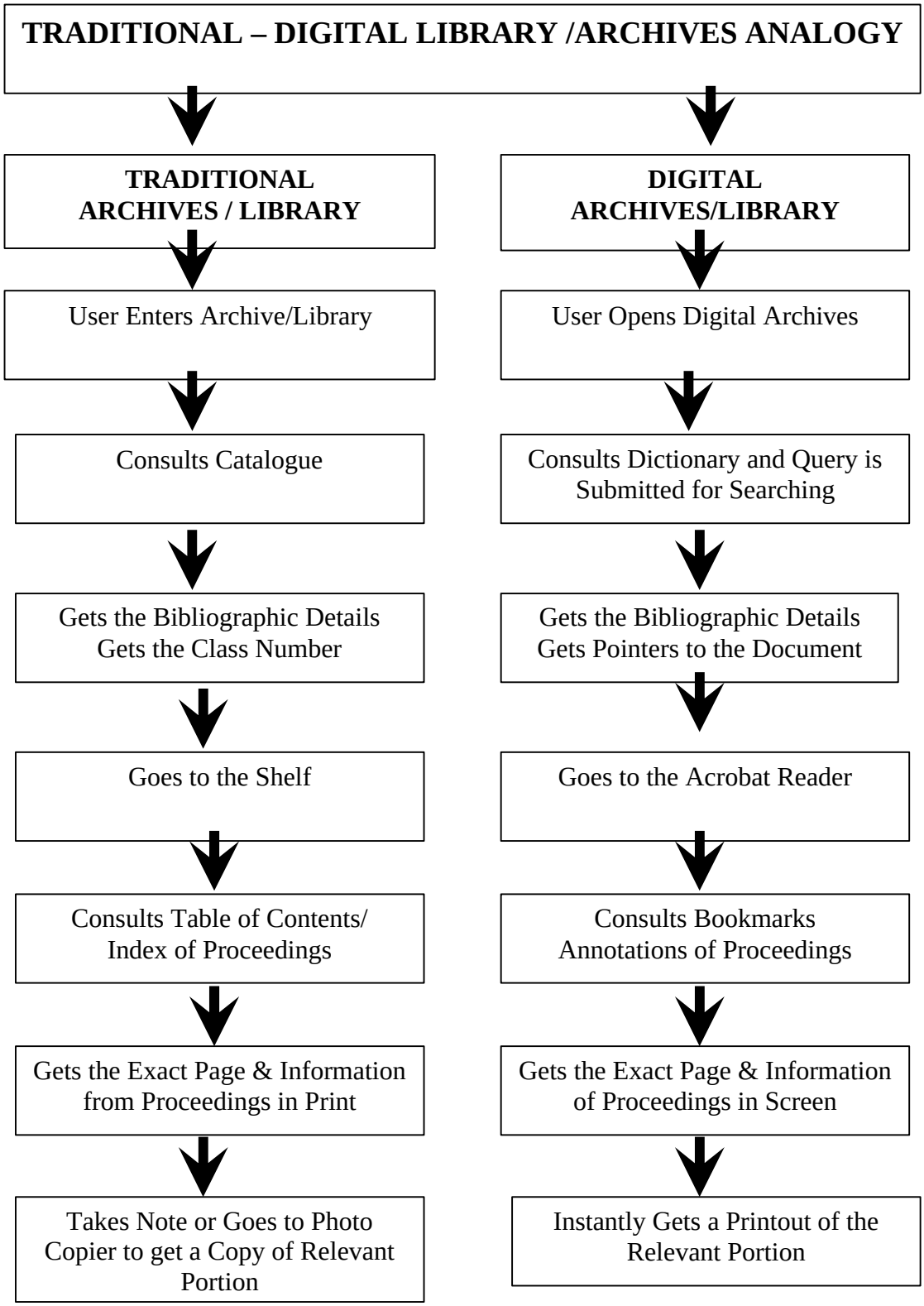
following page. The Digital Archives should be developed in accordance with that.

3.6. Nitya Digital Archive Package

It is advisable to use a solution like Nitya for Digital Library /Archive development which were successfully used in organizations like State Central Library, Trivandrum for digitizing multilingual documents covering Malayalam, Tamil, Hindi, English etc. More than that it is capable of processing old Malayalam script in which more than 75% of the records to be digitized at Kerala Legislative Assembly are recorded. Main features of 'Nitya' are:

- It catalogues documents in details leading to an in-depth search and retrieval. This is achieved through indexing and later fixed them as book marks in the electronic document of proceedings.
- 'Nitya' is not a general package. It is customized to particularities of local document collection. 'Nitya' is programmed differently to accommodate the specific needs of the collection. This leads to meaningful search and relevant retrieval.
- Records in 'Nitya' database is open and is developed in popular RDBMS like MS Access. This guarantees Open Database Connectivity (ODBC) and future migration to any desired database structures.
- Current proceedings collected in the Legislature Library in electronic format can be easily accommodated in 'Nitya' by the Library Staff, thus eliminating the need for third parties to update the digital archive.
- 'Nitya' is net workable Proceedings resource can be referred by any one in the Legislature Campus.
- 'Nitya' is Unicode complaint so that database can be developed in any Indian regional languages.

Kerala Legislative Assembly Proceedings



4. Consultancy from CIRD

Centre for Informatics Research and Development (CIRD) is a research institution functioning under Government of India Societies Registration Act XXI of 1860. The mission of the Centre is to act as a center of excellence in informatics and to assist government and other organizations by evolving required information and communication strategies, to provide training and advisory services for enabling them to identify appropriate policies for information management and the implementation of new knowledge and Information and Communication Technology (ICT) for improving their efficiency and relevance and to provide consultancy in establishing legal frameworks for the protection of information and innovations.

CIRD has a high profiled consulting group which is a team of experts providing voluntary service to it specialized in Library and Information Systems, Linguistics, Documentation, Open Networks, Protocol Switching and Networked Systems Management based on earlier Digital's enVISN Networking Architecture and Enterprise Management Solutions. CIRD has the expertise today, through its personnel, to provide advisory and other services in the following areas:

- Development of Digital Libraries/Archives
- Development of Library Catalogues/Databases/documentation Systems
- Information management/services for network based information systems.
- Project management

CIRD is mainly engaged in developing procedures and packages for digital archiving. 'Nitya Digital Archive' which has been successfully used in most of the Digital archives/Library development projects in regard to Malayalam

documents is also the flag-ship product developed by CIRD for different digital archiving applications.

Kerala Legislature has expressed its interests to digitize its Legislative Documents and requested to give necessary consultancy for preparing a project proposal on the matter. The Chief Librarian of the Kerala Legislative Assembly has requested to do the needful.

In response the technical experts from CIRD including specialists on Digital Library development, language Technology, etc made three visits during February and March 2007 to analyze the existing system. A survey of the digital library development projects that materialized in Kerala especially multilingual systems were evaluated in detail. Three Technical Reports on related aspects were developed at CIRD. Based on them detailed discussion was conducted by CIRD experts with the librarian of the Kerala Legislature Library in regard to all aspects including the Technology and processes of digitization.

Based on these discussions the Chief Librarian of the Kerala legislative Assembly prepared a Draft Report based on the technical advice provided by CIRD. The Report was discussed by the Technical Group of CIRD consisting of experts from Library and Information Science, ICT, Language Technology, Digital Archiving etc. The report was revised further by the Chief Librarian of Kerala Legislature based on comments and suggestions of CIRD which made it further comments and suggestions. The Final Draft Report was again passed through the technical group of CIRD. Based on the results of the discussions with the Chief Librarian of Kerala Legislature and Technical Group Meetings, CIRD has finalized the report incorporating required technical details and specification.

CIRD has also informed that the cost of project envisioning and consultancy which comes to 2 % of the total project outlay was relaxed by it due to the fact that the projects is related to the conservation of knowledge/heritage items using ICT which is also one of the main objectives of the CIRD.

5. Work Specification

The digitization of 6.2 lakhs pages of Assembly proceedings from 1888 to the present period may be divided into three phases starting from 2007-2008 and ending on 2009-2010. In 2007-2008 proceedings from 1888 (Travancore Legislative Council) to 1956 (Travancore – Cochin Legislative Assembly) consisting of pages of approximately 1, 55,976 may be digitally archived. In the Second phase (2008-2009) 2, 27,340 pages (approx) of proceedings from 1957 to 1982 and in the third phase 2, 68,740 pages (approx) of proceedings from 1982-2011 may be digitally archived.

5. 1. Project Initiation

The work for the project will started with a preliminary system study. Based on the study a draft report was prepared jointly be CIRD and the chief Librarian of Kerala Legislature. The report was discussed in detail at the legislature library and at the Technical Group meetings arranged by CIRD. Based on this the project was envisioned by CIRD and this final Report was generated and submitted to the Kerala Legislative Assembly. The report covers consultancy, hardware and software solutions, and information on estimated cost of digital archiving of the records at Kerala Legislative Assembly.

5.2. Project Envisioning

The envisioning of the project consisting of the system study and development of the Technical Project Report will take approximately three months and will be done during January 2007 to March 2007. The work was undertaken free of cost by CIRD considering the importance of the project for conserving our cultural/knowledge heritage which also forms one of the main objective of the CIRD.

5.3. Digital Archiving Work: Earlier Proceedings

Approximately 6.2 lakhs printed pages of the proceedings have to be digitized from 1888 to current period. The first phase may be started in 2007-2008 and the work will continue in 2008-2009 will be completed in the third and last phase in 2009-2010. The detailed breakup of each phase is given below at Para 8.1 to 8.3.

5.4. Current Proceedings

Copy of approved pages of current proceedings in electronic format can be collected in the Library. This can be incorporated into Digital Archive without scanning. Book marking and data basing are the remaining procedures for these documents to make them part of the digital archive. This can be simultaneously executed with the archiving of old proceedings. The work will be completed during the third phase that is 2009-10.

5.5. Infrastructure Development

This relates to the acquisition of electronic storage systems, and software solutions and other related computer and communication stacks detailed elsewhere. This is essential for maintaining a digital library/archives storage and service system at the legislature library. It is also advisable to establish a Digital Archiving Lab at the Kerala Legislative Assembly for the digital content development it can undertake in future to improve its information resource base. By having a digital Archiving Lab Legislature can under MOUs with other organizations support them for digitization and at the same time acquire a copy of the otherwise not available documents such organizations hold in their collections.

5.6. Uploading and Providing Access

It is expected that about 15,000 pages of proceedings can be archived every week and can be uploaded in the KLA network using ‘Nitya’. From the very

beginning of execution of the project the digital archive of proceedings will be fully functional and available in the Intranet of KLA.

5.7. Training and Seminar

Training of professional staff, in the Library in search and retrieval of digital archiving is a must in order to fully utilize the resource. Users including the members can be provided with a simple user orientation programme. Library staff may also be put under a training on the packages and methodologies of digital archiving so that legislature can consider the addition of future documents into the digital archive by itself as well as establish a digital archiving lab in the legislature library so that any document from government or other organizations may be called for digitization and addition to the digital archive of the legislature for the use of members.

One day per month can be spent for organizing training and work shop for different types of staff and users. Trained staffs will then know the scope and characteristics of the collection and program. They will then be equipped with better query building leading to better utilization of the digital resources. They can in turn impart this ability to Members, Scholars and Academicians

5.8. Demonstration of the Prototype

If legislature is interested and prepared to meet the costs; CIRD can develop a prototype of KLA Proceedings Archive in Nitya that can demonstrate the concept and utility of digital archiving as well as the power of Nitya for enabling an efficient search and retrieval of information from digital archive of KLA proceedings. This can be demonstrated and explained before the Hon. Speaker and the Library Advisory Committee and interested members at any pre arranged time on request from the Legislature. It is advisable for all concerned to view such a demonstration which can be taken later as the measuring rod for evaluating any solutions that are considered for selection.

6. Time Frame: Phasing of the Project

The work can be phased according to the nature of documents to be digitized as well as the availability of funds into three or five phases. The phasing of the work into three years as described below can be considered if the project is to be materialized in a limited period to ensure results.

6.0. Preliminary Phase: 2006-2007

Kerala Legislative Assembly Library will in association with the Centre for Informatics Research and Development (CIRD) providing technical consultancy to it will conduct a system analysis of the Kerala Legislative Assembly Proceedings Collection, covering their production, organization, management and services based on them. Based on that CIRD will envision the project and prepare a detailed Technical Report in association with the Chief Librarian of the Kerala Legislative Assembly. This work has already been completed with the finalization of this project report resulting from that.

6.1. First Phase: 2007-2008

1.	Travancore Legislative Council Proceedings	1888-1932
2.	Travancore Sri Moolam Popular Assembly	1904-1932
3.	Travancore Sri Mulam Assembly	1933-1946
4.	Travancore Sri Chitra State Council	1933-1946
5.	Cochin Legislative Council / Assembly	1925-1948
6.	Travancore Legislative Assembly	1948-1949
7.	Travancore-Cochin Legislative Assembly	1949-1956

6.2. Second Phase: 2008-2009

1	First Kerala Legislative Assembly	1957-59
2	Second Kerala Legislative Assembly	1960-64
3	Third Kerala Legislative Assembly	1967-70
4	Fourth Kerala Legislative Assembly	1970-77
5	Fifth Kerala Legislative Assembly	1977-79
6	Sixth Kerala Legislative Assembly	1980-82

6.3. Third Phase: 2009-2010

1	Seventh Kerala Legislative Assembly	1982-87
2	Eighth Kerala Legislative Assembly	1987-91
3	Ninth Kerala Legislative Assembly	1991-96
4	Tenth Kerala Legislative Assembly	1996-01
5	Eleventh Kerala Legislative Assembly	2001-06
6	Twelfth Kerala Legislative Assembly	2006-11

7. Implementing Mechanism

Digital Archiving/Library development is a highly specialized work. Even though many institutions have started digitization work they could not come out with functional archives or digital libraries. The process involves library and information science experts, compute scientists, linguists, etc. In legislature there is huge quantum of materials to be digitized and conserved as well as managed in a retrievable way. So for the Legislature it is advisable to have an Expert Committee on Digital Archiving of Assembly Records. The following constitution is recommended for the Committee.

Chairman: Secretary, Kerala Legislative Assembly.
Convener: Chief Librarian, Kerala Legislative Assembly.
Members:
IT Consultant of Legislature. Member
Joint Secretary./ Deputy Secretary, Kerala Legislative Assembly,
A Senior Librarian from Universities with qualification expertise prior experience in managing Digital Archiving Projects.

The committee will periodically meet and evaluate the work done, ensure that the work is in accordance with this projects proposals and the specifications approved and also recommend changes /improvements if any required.

8. Financial Terms

The cost of the project will be those meant for system study and project envisioning, consultancy, hardware and software solutions, and the cost of digital archiving of the documents. Total cost of the Project is Rs. 1,30,36457. Of this the cost of digital Archiving will come to Rs. 97,80,840. The cost of the Infrastructure development will come to Rs. 30,00,000. The cost of consultancy during the period of the project implementation is also covered by the above estimates. The cost of system study and project envisioning will come to 2% of the total cost i.e. Rs. 2, 55616. Establishing minimum facilities for Digital Archiving Lab also during the period will cost an extra amount of Rs 45 lakhs. A full fledged lab will cost Rs. 1 Crore. It is advisable to consider the lab after completion of the project and hence details of its requirements are not covered by this report. The detailed brake up of the cost and work are provided in the following paragraphs.

8.1. Cost of Project Envisioning/ Consultancy

The envisioning of the project consisting of the system study and development of the Technical Project Report will come to 2% of the total estimated cost. It will amount to Rs. 2,55, 616 as per the commercial terms. But the work will be undertaken free of cost by CIRD considering the importance of the project for conserving our cultural/knowledge heritage which also forms one of the main objective of the CIRD. It is importance to have expert consultancy during the implementation of the project for its successful materialization. For this the groups which undertakes the work or legislature has to obtain expert consultancy. The cost may vary from 2 to 5 % which also is to be met from the estimated costs.

8. 2. Cost of Digital Archiving Work: Earlier Proceedings

Approximately 6.2 lakhs printed pages of the proceedings have to be digitized. The approximate cost of digital archiving per page is about Rs. 15/- It covers scanning, converting into required format, image editing, trimming, book marking by business days, nature of business member etc. subject/Member indexing of each page and inclusion of concerned data in database.

The entire expenses of making a digital archive of Assembly proceedings from 1888 to the end of the twelfth Kerala Legislative Assembly comes around Rs. 98 lakhs. If the entire expenses cannot be met in the same financial year, the work can be phased out into three, spread over three financial years depending upon the availability of funds. The first phase may be started in 2007-2008 and the third and last phase will be in 2009-2010. The detailed breakup of fund requirement for each phase is detailed below at Para 9.5.

8.3. Current Proceedings

Copy of approved pages of current proceedings in electronic format can be incorporated into digital archives at less cost. Cost of archiving new proceedings may come to approximately Rs. 8 per page which will cover their formatting, page by page indexing, data basing etc..

8.4. Cost of Infrastructure Development

An approximate cost of 30 lakhs is estimated for the Infrastructure to be developed for maintaining a digital library / archives storage and service system at the legislature library. Establishing a Digital Archiving Lab is optional and will cost approximately Rs 45 lakhs. For a full fledged lab requires a good scanner meant for digital archiving which can around Rs, 30 to 35 lakhs. Digital Archiving software may cost around Rs. 15 lakhs. So a full fledged Digital Archiving lab may l cost around Rs. 1 Crore. The infra structure development will also be spread over the three phases of digitization work / financial years.

8.5. Detailed Estimates

Detailed estimates for each phase/each financial year is provided in the following sections. Cost of digitization work and infrastructure development is spread through three financial years. But it is flexible. Cost of Infrastructure development can be met in any one of those financial year as per the convenience and availability of the funds. The infrastructure should become available at the final phase to begin extracting the optimum utility of the resources developed. The digital Archiving Lab can be established in the last phase or at a later stage if required.

Detailed estimates of the Project as spread through the three Finical Years of the XI nth Plan period is provided in the following pages.

8.5.1. First Phase: 2007-2008: Detailed Estimates

Sl. No.	Name of Legislative Body	Year	Pages (approx)	Cost Approx. Rs.
0	Project Envisioning/Consultancy			2,55,616
1.	Travancore Legislative Council Proceedings	1888-1932	22343	3,35,145
2.	Travancore Sri Moolam Popular Assembly	1904-1932	3500	52,500
3.	Travancore Sri Mulam Assembly	1933-1946	26432	3,96,480
4.	Travancore Sri Chitra State Council	1933-1946	14804	2,22,060
5.	Cochin Legislative Council	1925-1948	54882	8,23,230
6.	Travancore Legislative Assembly	1948-1949	4704	70,560
7.	Travancore-Cochin Legislative Assembly	1949-1956	29311	4,39,665
8	Digital Library Hardware/Software			10,00,000
	Total		**155976**	**35,95,256**

8.5.2. Second Phase: 2008-2009: Detailed Estimates

Sl. No.	Name of Legislative Body	Year	Pages (approx)	Cost Approx. Rs.
1	First Kerala Legislative Assembly	1957-59	31500	4,72,500
2	Second Kerala Legislative Assembly	1960-64	54000	8,10,000
3	Third Kerala Legislative Assembly	1967-70	37980	5,69,700
4	Fourth Kerala Legislative Assembly	1970-77	57960	8,69,400
5	Fifth Kerala Legislative Assembly	1977-79	25740	3,86,100
6	Sixth Kerala Legislative Assembly	1980-82	20160	3,02,400
7	Digital Library Hardware/Software			10,00,000
Total			**227340**	**44,10,100**

8.5. 3. Third Phase: 2010-2011: Detailed Estimates

Sl. No.	Name of Legislative Body	Year	Pages (Approx)	Cost Approx. Rs.
1	Seventh Kerala Legislative Assembly	1982-87	44820	6,72,300
2	Eighth Kerala Legislative Assembly	1987-91	56160	8,42,400
3	Ninth Kerala Legislative Assembly	1991-96	47520	7,12,400
4	Tenth Kerala Legislative Assembly	1996-2001	48240	7,23,600
5	Eleventh Kerala Legislative Assembly	2001-2006	36000	5,40,000
6	Twelfth Kerala Legislative Assembly	2006-2011	36000	5,40,000
7	Digital Library Hardware/Software			10,00,000
Total			**268740**	**50,31,100**

9. Conclusions

At the completion of the first phase of the project in 2011 a Digital Library / Archives of Kerala Legislative Assembly Records consisting of the proceedings, reports and other documents related to the Travancore, Cochin, Travancore-Cochin and Kerala Legislative Councils and Assemblies from the year 1888 to 2011 will become functional at the Kerala Legislature Library. It will have in digital from the full text of the proceedings of the Legislative bodies of Kerala from 1888 consisting of Legislative Council of Travancore (1888-). Travancore Sri Mulam Popular Assembly (1904-) the bicameral set up (1933-) consisting of Lower House, Sri Mulam Assembly and Upper House, the Sri Chitra State Council, The Representative Body /Constituent Assembly of Travancore (1948-), Cochin Legislative Council (1925-) / Assembly (1948- Travancore and Cochin Legislative Assembly (1949-), Kerala Legislative Assembly (1957-) These documents are distinct from all other government records and they being authoritative sources of reference for legislative process; are unique and important official records held by Government / Legislature. Of these earlier volumes are hand written or typewritten having only one existing copy. They are brittle but are constantly in demand / use that may lead to their extinction. So conservation of these heritage items is a priority area for Kerala Legislative Assembly. The most cost effective and efficient method of making content accessible and ensuring preservation of originals is their digital archiving.

The completion of this project will enable broader and enhanced access to the assembly records to a wider community without causing any harm to the originals. Selective and speedy access to the content will become possible. Members can consult the full text of the Legislative Documents from their constituency/ office/ home or at any place during their travel. Conservation of a unique group of knowledge / heritage items for posterity will be ensured.

Related Documents

Griffin, Stephen M. Digital Libraries and the NSF/DARPA/NASA Digital Libraries Initiative. In: Raitt, David. Ed. Libraries for the New Millennium. London, Library Association, pp 115-147.

http://www.cird.org.in

http://www.unesco.org/webworld/mdm/index

Prasad, A R D and Devika P Madalli. Semantic Web and Digital Libraries. Proceedings of the International Conference. Bangalore, DRTC, 2007.

Raitt, David. Ed. Libraries for the New Millennium: Implications for managers, London, Library Association, 1997, 288p.

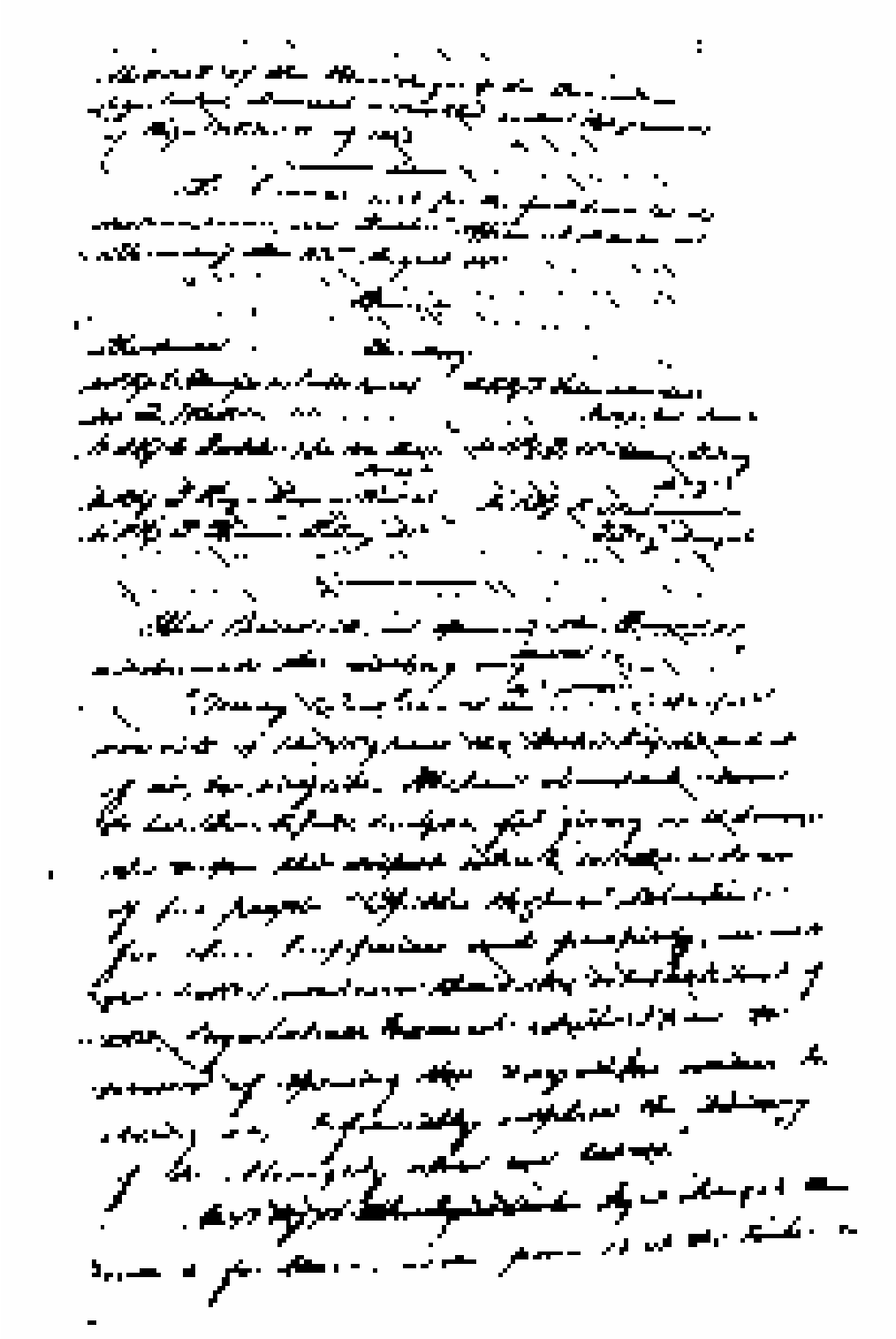
Raman Nair, R. (2005) Information Services to the Legislators. Kelpro Bulletin 9(1 & 2):pp. 59-64.

Ravindran Asari, K. and Hussain, K. H. and Raman Nair, R. (2002) Nitya Archives : Innovative blending of techniques for Selective Access to Information from Digitally Organized Text (SAIDOT). In Parthan, S., Eds. *Proceedings Information Management in e-Libraries*, pp. 275-285, Kharagpur (India).

Rowley, Jennifer. The Electronic Library. 4th ed. London, Library Association, 1998, 390p

Witten, Ian H. Visions of the digital library. International Conference on Asian Digital Libraries, 4th, Bangalore, 2001. Proceedings: Digital Libraries, ICDAL 2001, pp 3-15

A Page From the Proceedings of Travancore Legislative Council 1888



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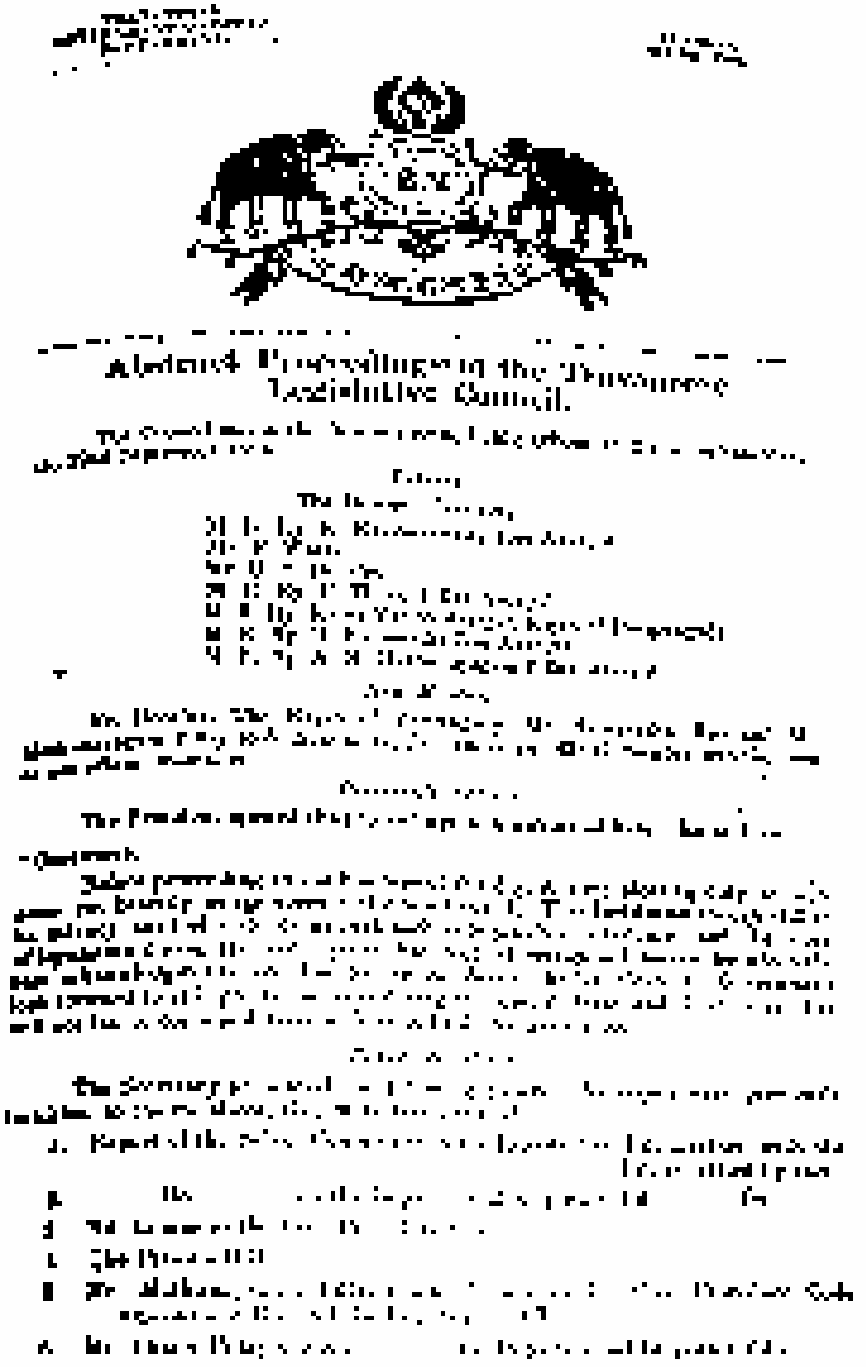
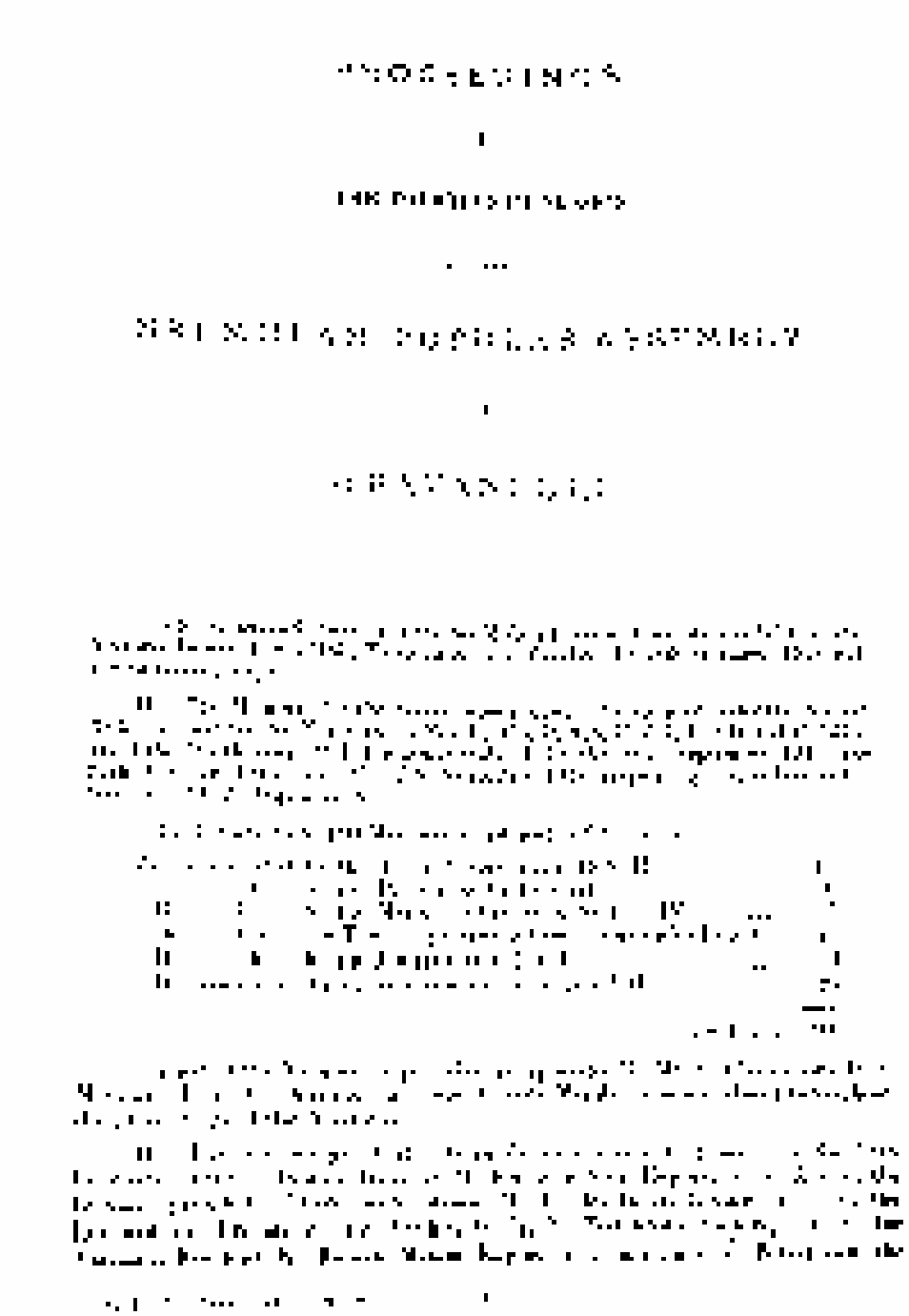


A Page From the Proceedings of the
Sree Mulam Popular Assembly of Travancore 1918



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Author /s: Sathikumar, C.S, Chief Librarian, Kerala Legislature Secretariat, Trivandrum and Digital Archiving Group of Centre for Informatics Research & Development lead by Dr. R. Raman Nair, with N.K. Bhagi; K.H. Hussain, K. Raveendran Asari, Ram Avatar Ojha, Bashir Ahmad as members.

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Year: 2007, March

Abstract: : Technical Report on developing a Digital Library / Archives of Kerala Legislative Assembly Records consisting of the proceedings, reports and other documents related to the Travancore, Cochin, Travancore-Cochin and Kerala Legislative Councils and Assemblies from the year 1888 to 2011 with the objective of ensuring their conservation and safety, efficient organization and management, and speedy and effective dissemination of their content for the business of the Assembly, for the reference of the judiciary and government as well as for research.

Keywords: Kerala Legislative Assembly Proceedings Digitization Archiving India Library information

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