Newspaper Preservation

by

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Newspapers - An Introduction

The newspaper is a product born out of

- Necessity
- Invention
- The middle class needs
- Democracy
- Free enterprise
- Professional standards.

Importance of Newspaper Archives

- Newspapers may perish but not the news they contain.
- The news become history.
- The greatest part of general information today is found in Newspapers.
- To trace the history and refer, people look for the newspaper archives.

The Collections at the Newspaper office include

- The Printed copy
- Supporting Documents: facts, tables, statistics
- Photographs
- Illustrations: maps, charts
- Clippings

Archives & Preservation

- Hard Copy
- Microforms: film / fiche
- Digital Form
 - Full Text
 - Image Files
 - HTML / XML Pages
 - PDF Files

Retrieval of Information

- Index
- Document Management Systems
- Full Text Retrieval Systems
- CDROM based Retrieval Systems
- Digital Asset Management Systems
- Web based Internet / Intranet

Delivery of Information

- Conventional Photocopy
- Microfilm Reader/Printer
- CDROM
- Email
- Web
- RSS Feeds
- Mobile and Handhelds
- Online Services
- Through Content aggregators

Status of Digitisation

- Low Priority
- Unorganised
- Missing hardcopies
- Microfilm exists but quality?
- Non availability of Reader/Printer
- Sketchy Index
- Manage with clippings
- Last few years in digital form (Born Digital)
- Rush to digitise and store in CDROM / Local Systems
- Attempts to Web Enable
- Unclear Business Model

Digitisation & Business Issues

- Quality of originals / hardcopy
- Size of the paper
- High cost of scanners
- Format of storage: Image, PDF, HTML/XML
- Conversion: OCR, HTML/XML
- Tagging
- Indexing old issues
- Storage: CDROM / Optical / Magnetic (online)
- Period of Access
- Deployment: Intranet / Internet / Online
- Local printing for use
- Copyrights
- Fee for use: free/subscription/pay per view -- Business Model
- Reuse

The Hindu – An Introduction

- India's National Newspaper
- Started in 1878 as a weekly
- Became a daily in 1889
- Circulation of over 1,100,000 copies
- Over 40 lakh readers
- Published from 13 Centres as 54 Editions
- Exclusive Supplements on almost all the days
- Extensive Use of Info Tech in its activities right from News Gathering to Archives

The Hindu – Several Firsts

- Distribution through Aircraft
- Electronic Typesetting
- Fax Editions
- Satellite Communication
- Automated Pagination
- Internet Edition

The Hindu – Group Publications

- The Hindu Business Line Business Daily
- The Sportstar Weekly Sports Magazine
- Frontline Fortnightly Features Magazine
- Survey of Indian Industry An annual
- Survey of Indian Agriculture An annual
- Survey of the Environment An annual
- The Hindu Index Monthly and Cumulated Annual
- Special Publications under the series THE HINDU SPEAKS ON Libraries;
 IT; Management Vol 1 & 2; Education; Religious Values; Music; Scientific Facts Vol 1 & 2
- Special Supplements

The Hindu – Archives & Info Services

- Library
 - News Indexing
 - Photo Indexing
 - Book Reviews
 - Clipping Services
 - Full Text storage & retrieval
- Feed to Online Services
- Internet Edition
- ePaper
- Digital Photo Archives
- Digital Archives of Newspaper Volumes

The Hindu – Index .. Contd

The present status

- The Hindu News for 1988 & 1989
- The Hindu News from 1990
- Frontline News from 1988
- The Sportstar News from 1988
- Published Photos (covering both general and sports)
- Unpublished transparencies

The Hindu – Manual Index

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The Hindu – Printed Index

THE HINDU INDEX Information Services & Technology (see also Computers / Libraries & Librarians) Awards Wards
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bags award in Public Service and
Democracy category, JUN.07.9a
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instituted by Brandwidth, award
ceremony in Mumbai on Jul. 1,
JUN.17.18a Bills & Acts

Convergence Bill

'super-regulatory body' planned for
telecom, internet and broadcasting,
JUN. 19, 100 Information Technolgy Act skirting crucial issues: experts' views, JUN.22,25e JUN.22,25e
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on 'IT and Development', in New Delhi,
Union IT Min. Mahajan speaks, Union IT Min.
JUN.22,19b
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cyber-** cyber-theft charges, bail plea of computer engineer Mukesh Gupta rejected, JUN.02,14d exports
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JUN.12.1b
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Chennai Chennai
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kiosks, a report, JUN.13.3b

Information Technology
Bill Gates says in the next 10 years IT
would bring computers with much more
powerful memory, JUN.14, 16a; use IT
for human development: UN official,
21,19b; use IT to tackle social challenges

> mil Nadu international data links throughout the State planned: CM, JUN.12, lb; TN is well poised to emerge as the largest IT

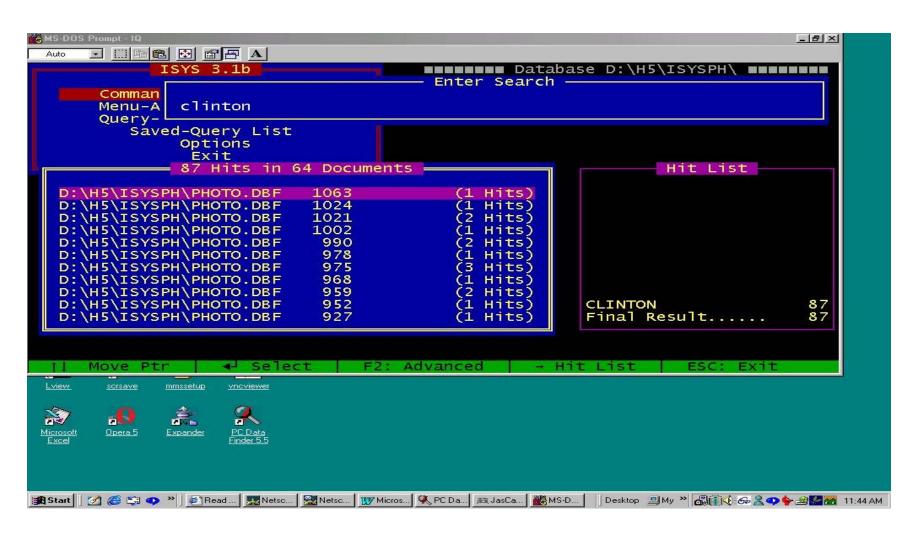
- Mahajan, 22,19b Tamil Nadu

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University report, 12,1b; Union Minister
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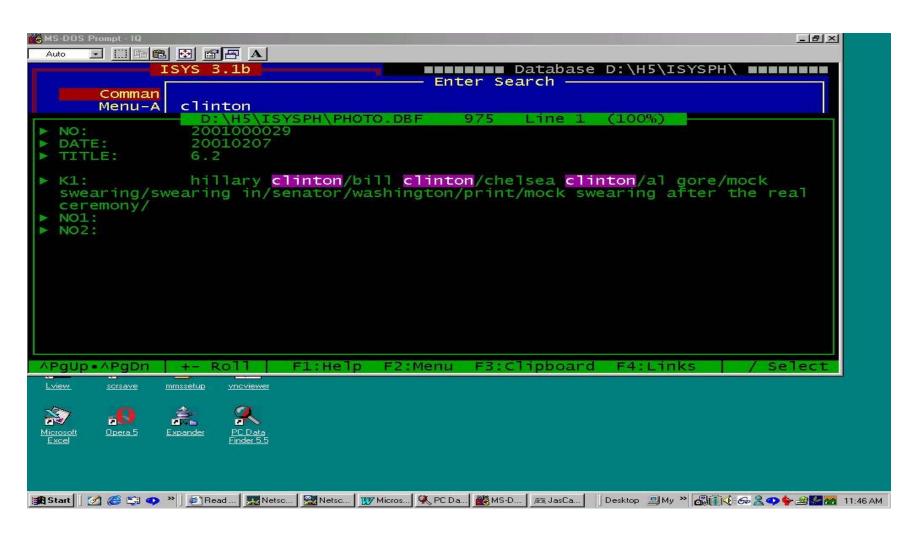
ELCOT invites business houses/
entrepreneurs to set up IT Parks,
JUN.11,20g
Information Technology Policy
Min. Pramod Mahajan calls meeting of
various States on Jul.15 to work out
policy by Sep., JUN.26,1d various States on July 1. Various States on July 1. Various States on July 1. Various States and free access at nights as part of 'monsoon package', JUN.01.1a; VSNL' monsoon package', JUN.01.1a; Virtual private new rk. art., 01.2b; Winteless net may require 'smart software is the service: Application Service Providers, art., pix., 01.30a; Wireless net may require 'smart antennas', art., 01.31c; new software from Computer Associates to block email worms, 02.19c; Opensoft offers Internet sans PC, 08.18f; Web escorts: Internet sans PC, 08.18f; Web escorts: Announces 30 pc cut in tariffs, 10,1c; Ahistory oftomorrow's letters: message converted into codes, art., cari., 10.2a; The sweet XML of success: language of web pages, art., 15,30f; Cyberwave plans to offer 'Internet through cable service', 16,22a; Taiwanese businessman devises way to increase speed of plans to offer 'Internet through cable service', 16,22a; Taiwanese businessman devises way to increase speed of transmission from megabytes to gigabytes, 18,1a; more bytes in less time: Taiwanese businessman Ding Yuan Yang's venture, 18,11e; IT returns through net soon: CBDT Chairman Balasubramanian, 20.5g; An address book for the road, art., 22,25a; the other side of Net: porno-pictures being viewed by children, 1rr., 29,12f viewed by children, Itr., 29,12f manai

More on the job: Jobkhoj website
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JUN.03.2e; Easier than e-mail:
Bharatmail website launched, art., 08,2e;
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loans for ex-servicemen increased, 10,
3a; Ioo to introduce inter-node switches to alert Internet users for incoming

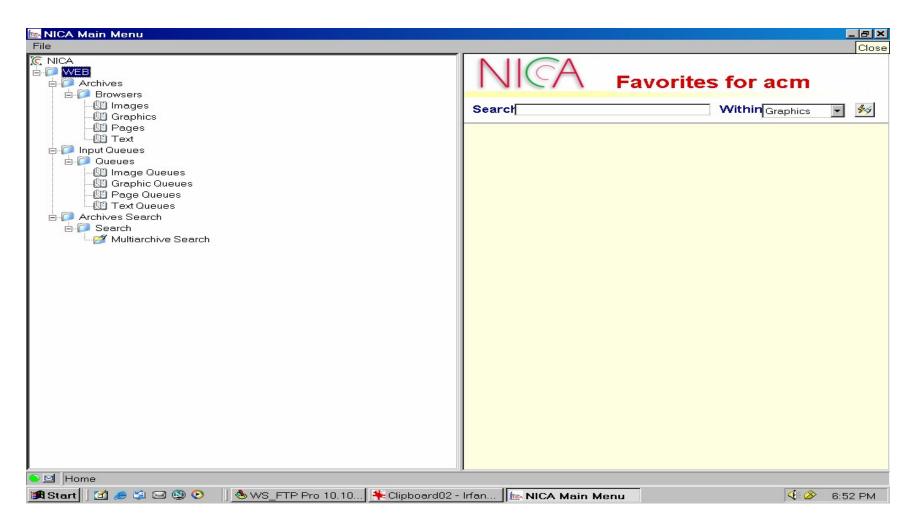
The Hindu – Photo Archives – Query & Result



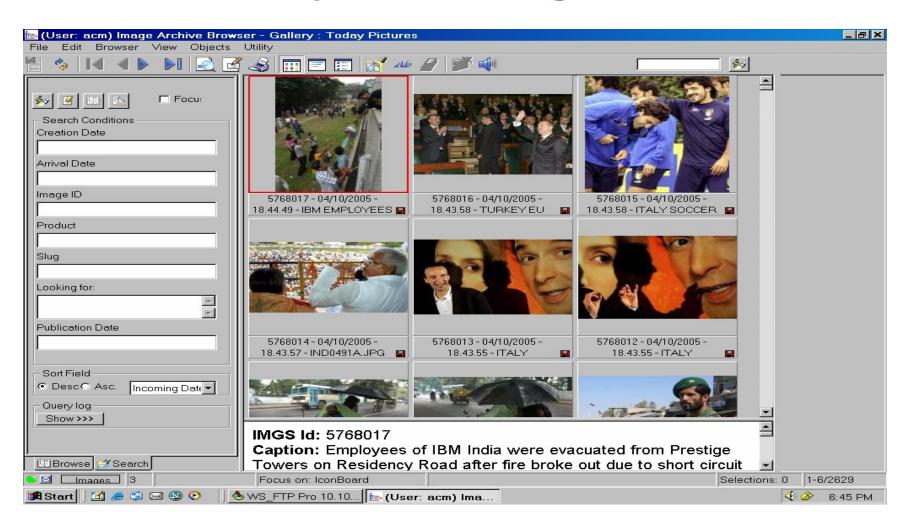
The Hindu – Photo Archives – Conventional - Photo Details



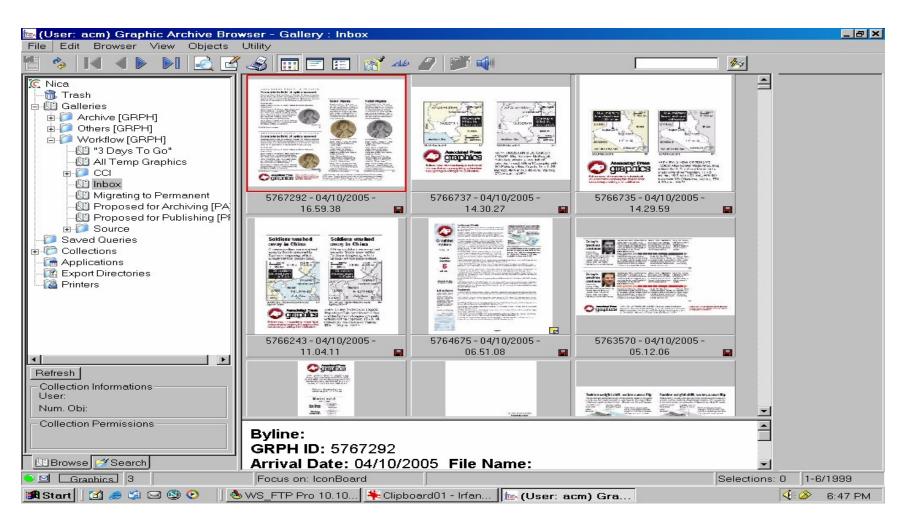
The Hindu – Photo Archives – NICA - DAM System - Browser



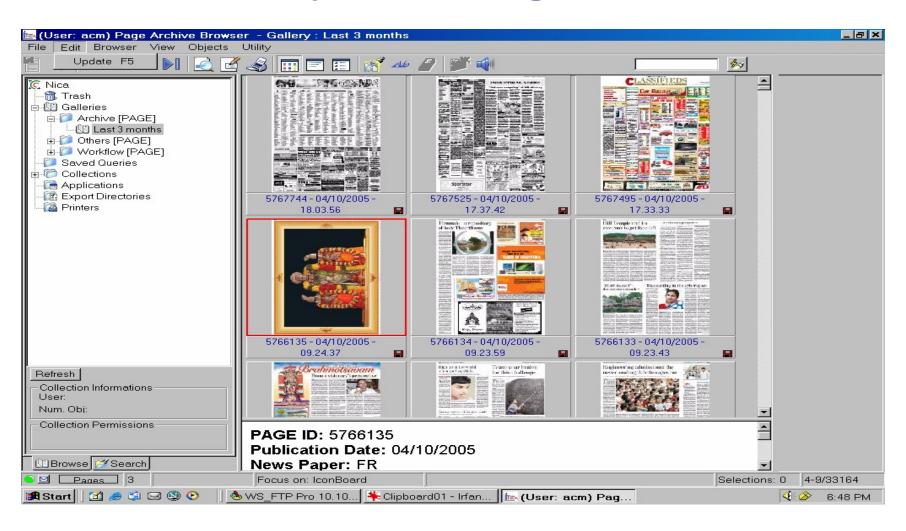
The Hindu – Photo Archives – NICA - DAM System - Images



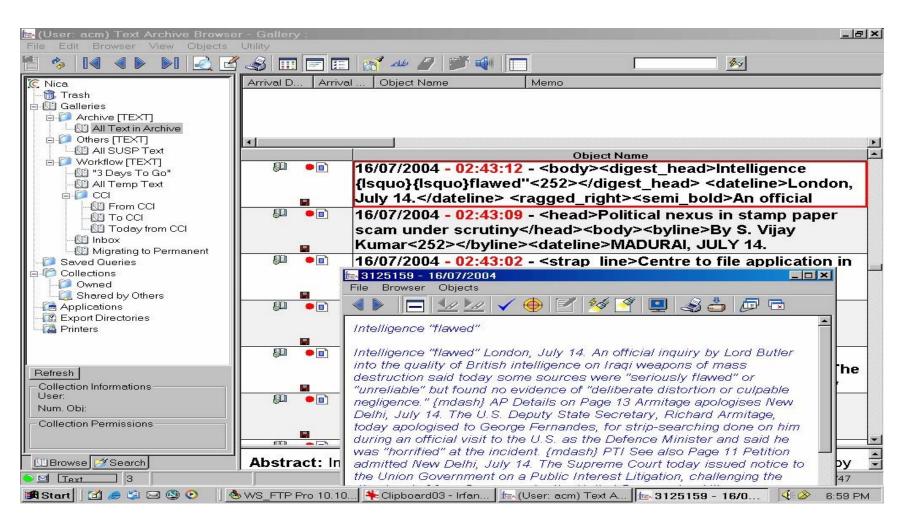
The Hindu – Photo Archives – NICA - DAM System - Graphics



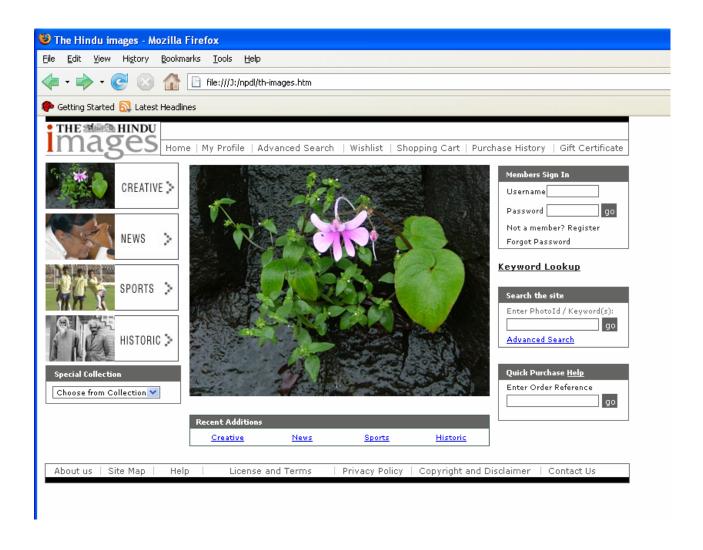
The Hindu – Photo Archives – NICA - DAM System - Pages



The Hindu – Photo Archives – NICA - DAM System - Text



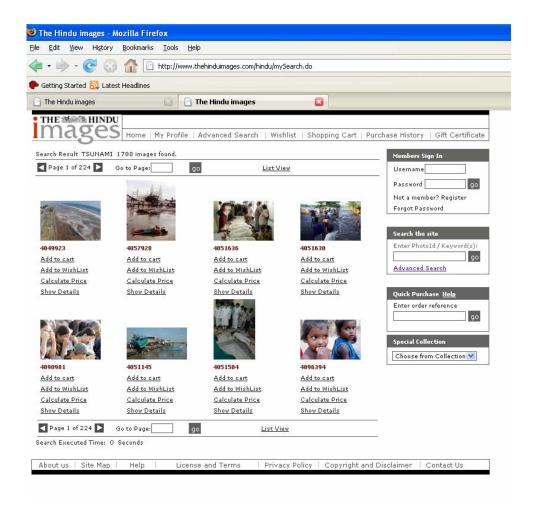
The Hindu – Images on the Web - Home



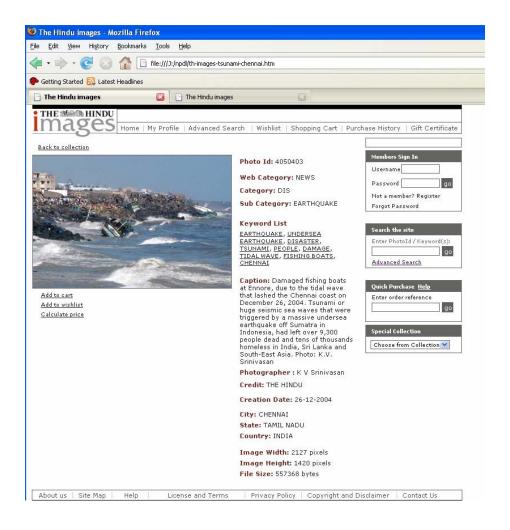
The Hindu – Images on the Web - Historic



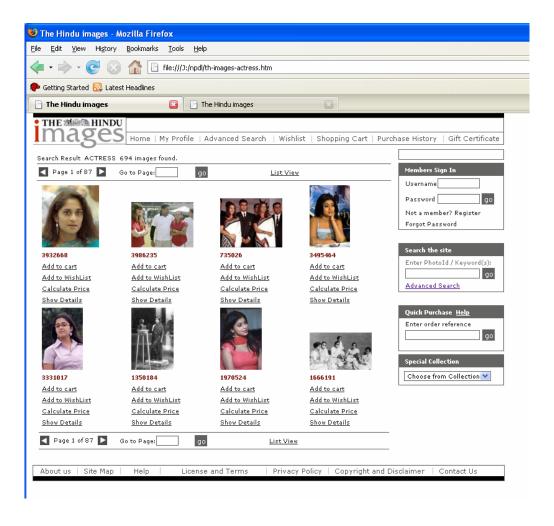
The Hindu – Images on the Web - Tsunami



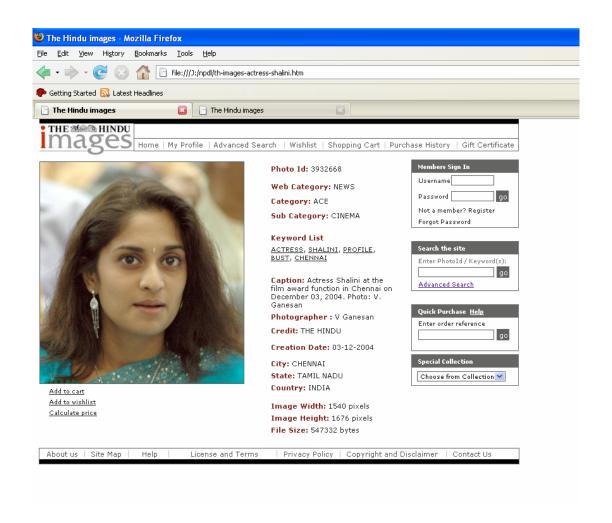
The Hindu – Images on the Web – Tsunami - Chennai



The Hindu – Images on the Web – Actresses



The Hindu – Images on the Web – Actresses - Shalini



The Hindu Archives - Preservation

- Initiative Started in 2001
- Preservation was the key requirement as the paper was losing strength and handling for reference became difficult as it was crumbling
- The manuscript Index volumes numbering 3000+ also became difficult to handle for periodic reference
- Strengthening the paper was planned
- Thin muslin cloth bonding preferred over lamination
- About 1.2 million pages were strengthened over a period of FOUR years
- It also facilitated to know the inventory of our holdings

- The preservation activity had limitations of access
- For better access & retrieval of information Digitisation was considered to be the solution
- In 2003 a working group was formed with Dy. Chief Librarian & Chief Systems Manager under the guidance of Editor & Joint Managing Director to study and initiate a project
- Considerable cost (multi crore) was projected
- Initial trails were done at CDAC, Bangalore where a pilot project for IIAP was being carried out
- CDAC was more towards book digitisation
- The newspaper digitisation involved segmenting the news and advertisements and building up databases and explicit search & retrieval facilities

- Search was initiated to locate agencies who can digitise the large size & newspapers in high volume and also use the microfilms as input wherever hardcopy was not available / in poor condition plus work on digital pdf files as well
- Out of Six agencies identified, three were dropped as they were not geared up for the full digitisation process up to retrieval interface
- Two agencies from Chennai and One agency from Hyderabad were short listed for demonstrating Proof of Concept.
- At a broad scale deliverables were defined as <u>POC Specs</u>
 - Full Page Image (in Tiff & jpg format)
 - Full Page PDF (image over text form)
 - Splitting Individual Stories & OCRing (pdf, jpg & XML form)
 - Splitting individual photos & advertisements (pdf & jpg form)
 - Tagging the XML stories
 - Simple retrieval system using Open Source Software

- One Agency from Hyderabad & one from Chennai were short listed
- Commercials & their similar work project experience were considered for finalising the contract.
- Pre-condition was that the originals will not be shifted from the office
- Both the agencies were very aggressive as The Hindu was a prestigious client
- Considering the ease of co-ordination, the Chennai based agency was awarded the contract to demonstrate & develop a prototype based on the first version of the specifications so that we can refine our specs
- A sample lot of about 5000 pages spanning at an interval of Five years from the inception 1890 to 2000 were used in the prototype. This gave us an idea of the newspaper layout, content organisation, other elements etc. This was very valuable in arriving at the project specifications. We referred to NewsML & IPTC standards too.

- Final specs were frozen in Aug 2003 and the order was confirmed
- Workspace for 10 people and two A0 size scanners were provided for the contractor to work on the project
- Library staff co-ordinated with the issue of the hard copy newspapers for scanning
- After scanning (two pages at a time) the files were split, cleaned and stored in TIFF format
- Periodically the TIFF files were sent to the Data Centre of the contractor (outside our office) for creating the project deliverable components
- The deliverables and associated files were stored date wise and a database was created and stored on a staging server at The Hindu to facilitate the Quality Check process
- Library staff were trained by the Systems Dept on how to check the digitised Pages, News Items, OCRed Text, Metatags, Advts and the related Links etc
- Corrections were carried out by the contractor personnel on the local staging server
- From Staging Server, the data was transferred to SAN attached to NICA

The Digitisation Workflow

Generic Workflow of Newspaper Digitisation

Digitisation -- Issues

- Missing Pages
- Foldings, ink streaks, pasting with tapes
- Cutting at edges (as pages were trimmed during binding)
- Multiple editions -- Overlapping of contents
- Scanning problems in strengthened pages
- Problems with Microfilms (storage, filming patterns)
- Scanning problems in pages printed from Microfilms -- inconsistent exposure
- OCR related issues for the earlier period items
- News items with no title
- Identifying items for zoning as too may short news items two / three lines
- Meta Tagging lack of experience clarity
- Quality Check tedious and time consuming

Digitisation -- Storage

- Up to 20 MB for the TIFF files per page and about 40 MB for the components per day (avg) for the older periods and now it is in the range of 80-100 MB because of more pages and colour printing
- Large Storage Volume anticipated 35 TB but expected to expand to 50 TB
- Original scanned TIFF Files on CD / DVD / Tape Cartridge to reduce cost
- Full page PDF/JPG and components on staging server for Quality Check
- Backup of components on Tape Cartridge
- Corrected files on a SAN storage for online retrieval 4 TB
- Ingested on to NICA Digital Asset Management System
- For web access an exclusive NICA system is being planned

Digitisation -- Status

- Business Line 28, Jan 1994 till date
- The Hindu 1878 till date (with some intervening missing files)
- Frontline from Dec 1984 till date
- Sport & Pastime and Sportstar all issues (in diff layouts)
- Annual Publications current period in digital form, earlier ones being digitised
- Photographs current photos all in digital form stored in NICA & selected items are hosted on the Net. (<u>www.thehinduimages.com</u>)
- Old photos -- 1,00,000+ scanned and about 5,00,000+ yet to be scanned
- Efforts are on to offer the Archives on the Web similar to our <u>ePaper</u>

Digitisation – Demo & Interesting items

- Sport & Pastime
- Sportstar 1st issue (tabloid on newsprint)
- Sportstar -- in A4 Book format
- Sportstar redesigned & current (tabloid)
- Frontline 1st issue
- Frontline current Issue
- The Hindu 1st Jan 1963
- The Hindu 18th Jan 2008
- Business Line 28th Jan 1994 1st Issue
- Business Line 18th Jan 2008
- Interesting Items