Developing A Database on Contribution of Maulana Azad to the Pluralistic India Using Greenstone Digital Library Software

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Abstract

Digital Databases are very popular in the modern age as many of institutions and organizations are developing their own digital databases for preservation and better utilization of their valuable information. The major objective of the project were to preserve literature on Maulana Azad digitally for the future generation by designing and developing digital databases of bibliographical information of works written by/on Maulana Azad, using Greenstone Digital Library Software and to develop a user-friendly interface for searching the databases. In this project four databases were created: i) Maulana Azad: English Database ii) Maulana Azad: Urdu Database iii) Articles on Maulana Azad iv) Quotations. These digital databases will definitely provide a central location for accessing information on Books and Articles written by/on Maulana Azad and Quotations about/by him.

Key Words: Digital preservation, Digital database, Maulana Azad, Pluralistic India, Greenstone

1.   Introduction

Information preservation is one of the most important issues in human history, education, culture and economics, as well as in the development of our civilization. While earliest information was recorded in carvings on wood, stone, bamboo, leather, ceramic, fiber, etc. Today is the age of digital information. Digital preservation has become the vital issue today to preserve the born digital and digitized documents. A digital preservation system is a set of procedures, activities and instruments that helps to safeguard digital memory over time. This means to preserve all the documents, both born digital and converted to digital, in the long term, preserving their content.

*The project has been developed for Indian Council for Cultural Relations (New Delhi) under Library Fellowship programme.

Mohiuddin Ahmed Abul Kalam Azad popularly known as Maulana Azad was one of the outstanding personalities of the Indian's independents Movement. Maulana Azad struggled with single-minded devotion and superb sincerity of purpose to promote national solidarity. As a scholar, Maulana Azad produced monumental literary works. He is also remembered as a poet and writer of great skill.

2.   Maulana Azad: Life and Contribution

Maulana Abul Kalam Azad was born in a deeply orthodox Muslim family of noted scholars and divines on 11 November 1888 in Mecca. His forefathers came from Herat, Afghanistan at the time of Babur. His mother was an Arab and the daughter of Sheikh Mohammad Zaher Watri and his father, Maulana Khairuddin, was a Bengali Muslim of Afghan (probably Tajik) origins.

Khairuddin left India during the Sepoy Mutiny, proceeded to Mecca and settled there. He came back to Calcutta with his family in 1890. Maulana Khairuddin was a well-known Arabic Scholar in the Islamic world. He lived in Mecca for about three decades.

Maulana Azad established/strengthened/or reoriented a number of scientific, literary and cultural organizations, particularly to be noted are the following:

Central Institute of Education, Central Advisory Board of Education, All India Educational Conference, Museum Association of India, Indian Historical Records commission, Central Advisory Board of Archaeology, All India Conference on Arts, Indian Council for Cultural Relations, All India Conference on Letters, Indian Institute of Technology, National Art Treasures Fund, Central Road Research Institute, Indian Academy of Drama and Music, National Library, Culcutta, All India Council for Technical Education, Central Building Research Institute, Roorkee, The Council of Scientific and Industrial Research, University Grants Commission, Sahitya Akademi, Lalit Kala Akademi, University Education Commission, Secondary Education Commission, Kharagpur Institute of Higher Technology, Indian Institute of Science, Bangalore, Delhi Polytechnic, Western Higher Technological Institute, Bombay.

Azad was also a great writer and thinker. He did commendable work as editor of Nairang-i-Alam. Later he started publishing his own newspaper, Lisan-us-Sidq. His Tarjuman-ul-Quran is considered to be a masterpiece.

The title Maulana is of a highly qualified Islamic scholar and religious cleric. Azad was not a practicing cleric, however. He was posthumously awarded India's highest civilian honor, Bharat Ratna, in 1992. Maulana Azad struggled with single-minded devotion and superb sincerity of purpose to promote national solidarity. He began his political career by opposing the partition of Bengal and ended it by opposing the Partition of India.

3.   Greenstone Digital Library Software

Greenstone began in 1995, with a small group of people who wanted to make online technical reports more accessible to the research community by presenting them over the Web in a uniform and fully searchable way. Greenstone is a suite of software for building and distributing digital library collections. It provides a new way of organizing information and publishing it on the Internet or on CD-ROM. Greenstone is produced by the New Zealand Digital Library Project at the University of Waikato, and developed and distributed in cooperation with UNESCO and the Human Info NGO. It is open-source, multilingual software, issued under the terms of the GNU (General Public License). The aim of the Greenstone software is to empower users, particularly in universities, libraries, and other public service institutions, to build their own digital libraries. The complete Greenstone interface, and all documentation, is available in English, French, Spanish, Russian and Kazakh. Greenstone also has interfaces in many other languages. There are many versions of Greenstone digital library software like Greenstone v2.35, Greenstone v2.51, Greenstone v2.61, 2.83 and the latest is Greenstone v3.04 as on January 2011.

3.1   Features of Greenstone Digital Library Software

- Accessible via Web browser

- Full-text and fielded search

- Flexible browsing facilities

- Creates access structures automatically

- User interface available in multiple languages

- Collections can contain text, pictures, audio, and video

4.   Need and Significance of the Project

Memories of Azad's life-long commitment to genuine religiosity and religious large-heartedness have to play vital role in the present Indian situation. Azad's vision and his message should be reached in to the notice of common man in the country by spreading his literature. This project would be a humble attempt in this regard.

Right information to the right user at the right time has been the motto of information professionals. Recent Developments in communication and information technology, especially the Internet and the web, have brought significant changes in the way we generate, distribute, access and use information.

In this project, an attempt has been made to digitize bibliographic information available on Maulana Azad's vision on pluralistic India and his own literature on the same topic. It is also noted that digitization of literature in the digital database form is the best method to preserve these historical literature for the future generation. The digital collection database provides the bibliographic information and abstracts of each publication on Azad's vision and also published by him to serve the subject approach of the users.

5.   Objectives of the project

The followings are the important objectives of this work.

- To develop a digital database (Bibliographic) of all publications on Maulana Azad's vision on pluralistic India and also published by him on the same topic that are available in the ICCR library, New Delhi and other libraries including Maulana Azad Library, Aligarh Muslim University.

- To develop a user-friendly interface for searching the databases.

- To preserve literature on Maulana Azad digitally for the future generation.

- To provide tentative searching through the keyword, subject, title and many of the bibliographic information.

6. Scope of the Project

The present project entitled "Developing a Database on Contribution of Maulana Azad to the Pluralistic India Using Greenstone Digital Library Software" aimed to design and develop a digital database of bibliographical information of works written by/on Maulana Azad, using Greenstone Digital Library Software.

The purpose of the database is to provide a central location for accessing information on Books and Articles written by/on Maulana Azad and Quotations about/by him. Its also provides bibliographic information and abstracts of each document with various approaches serve the subject approach of the users.

The database will serve as a 'digital repository' to the faculty members, students, researchers and other people those who have interested in life and works of Maulana Abul Kalam Azad. It will also be fruit-full to the users of the ICCR library to locate and retrieve the documents on/by Azad.

7. Methodology

In order to start the project work, the investigators made literature survey on related to the topic. After the thorough search for literature the next step was to the analysis of the total collection of all kind of materials available in the ICCR library New Delhi and other libraries nearby. Then bibliographic information and abstract of each published/unpublished document and articles on the topic were prepared by the investigators.

There are many digital library software are available, proprietary as well as open source. Some of the popular open source software for digital libraries, which are use internationally, are DSpace, Eprints, Greenstone, Fedora, etc. Among these, DSpace and Greenstone are becoming more popular. In a study "Open Source Software: A Comparative Study of Greenstone and DSpace" Singh and Ngurtinkhuma (2007) concludes that "some features of the Greenstone like its multilingual nature, exhaustive platform and training programme supported by UNESCO, have proved to be superior over DSpace", Greenstone Digital Library Software has been chosen for this project and same has been installed on computer and all the bibliographic data and abstract have been uploaded to the Greenstone Digital collection followed by design the collection appearance and searching index facilities. The last step was to analyze the efficiency and consistency in retrieving the information in Greenstone.

8. Developing a Database on Contribution of Maulana Azad to the Pluralistic India Using Greenstone Digital Library Software

8.1 Bibliographic Information and Abstracts of the Works on Azad

In this step, the bibliographic information along with abstracts of the works on Maulana Azad has been prepared.

8.2   Metadata Sets

Sets of predefined metadata elements are known as "metadata sets". An example is the Dublin Core metadata set. When user adds a metadata set to his collection, its elements become available for selection.

For this project Dublin Core (DC) Metadata Standard has been chosen to assign metadata to the database (Fig. 1).
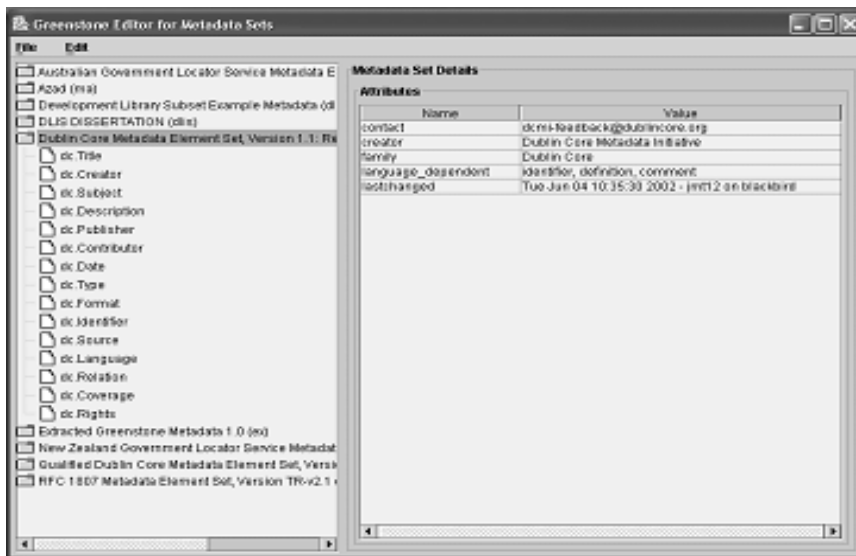

Figure 1: Dublin Core Metadata Set

8.2.1   Elements of Meta Data Set: Indexes

Using Dublin Core Metadata Set the following Indexes have been created:

♦ Title: The name given to the resource by the author or publisher.

♦ Author: The person primarily responsible for the intellectual content of the resource.

♦ Form: The category of the resource.

♦ Publisher: The entity responsible for making the resource available in its present form.

♦ Year: The date the resource was made available in its present form.

♦ Language: Language of the intellectual content of the resource.

♦ Location: The work, either print or electronic, form which this resource is delivered.

♦ Key words: Key words that describe the subject or content of the resource.

♦ Abstract: A textual description of the content of the resource.

8.3   Uploading of Collection

In this stage of project work the abstract and bibliographic information have been uploaded to the Greenstone Digital Library Software under the file name "Maulana Azad: English Database", "Maulana Azad: Urdu Database", "Articles on Maulana Azad" and "Quotations". There are certain phases in the uploading of the collections. They are:

- To develop
- Gathering the collection
- Enriching the collection
- Designing the collection
- Building the collection

8.3.1   Gathering

In gathering phase (Fig. 2) all the files or folders have to be gathered in the Greenstone collection. In this phase all files to be uploaded are being dragged in to the Greenstone collection.
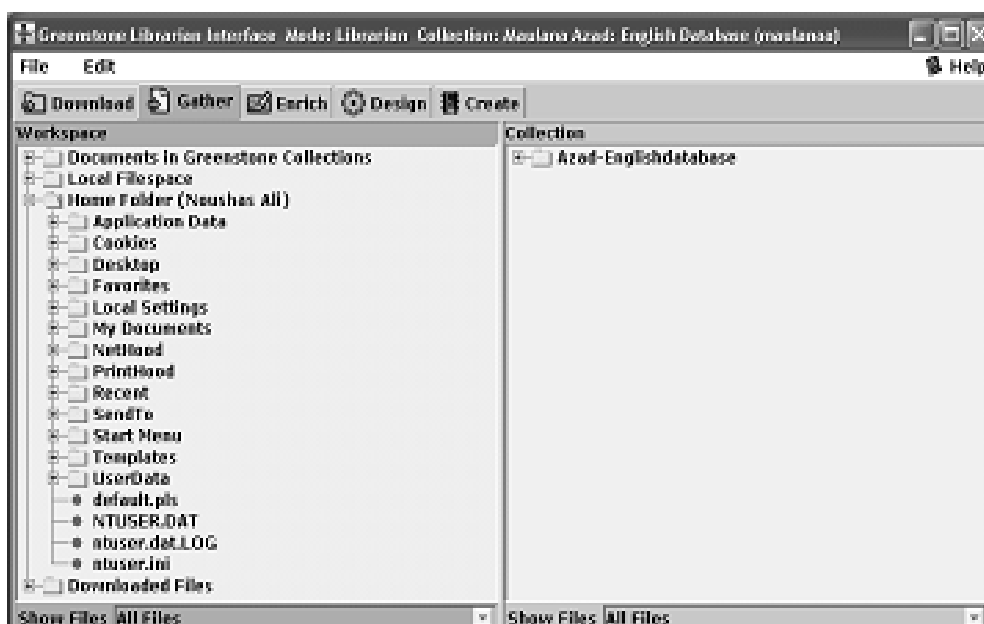
Figure 2: Gathering of Files

8.3.2   Enriching

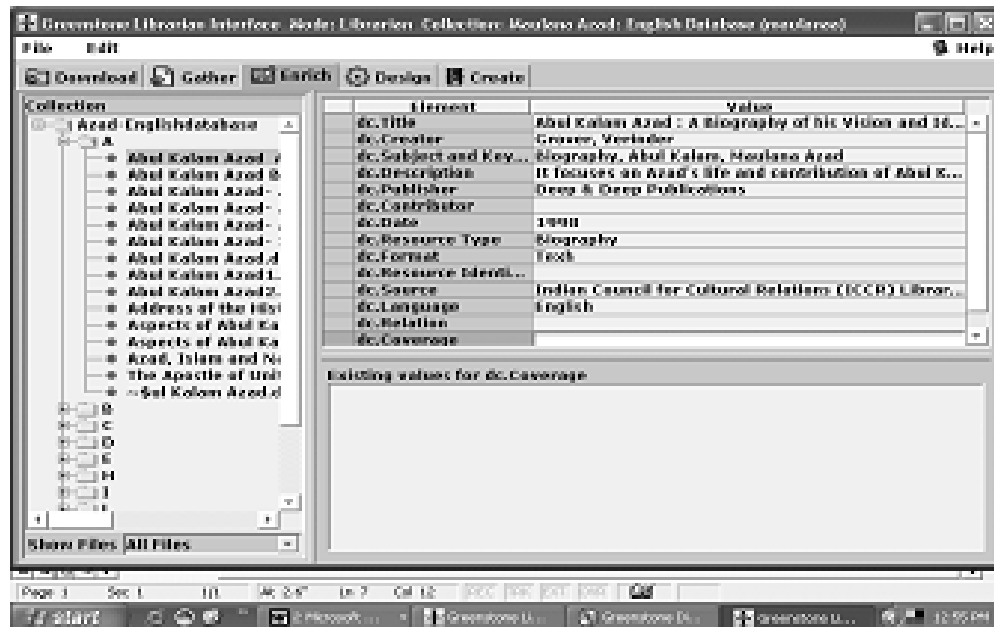In enriching phase **(Fig. 3)** the Metadata has to be assigned in to the files.

Figure 3: Enriching Files

8.3.3 Designing the Collection

In this phase the collection display is to be designed (Fig. 4) and (Fig. 5). The searching techniques, document plug-in, search indexes etc are being designed in this phase. The appearance of the user interface of Greenstone Digital Library depends up on the designing of the page in this phase. The design phase contains:

- ♦ General Settings
- ♦ Document Plugins
- ♦ Search Types
- ♦ Search Indexes
- ♦ Partition Index
- ♦ Define Filters
- ♦ Assign Partitions
- ♦ Assign Language
- ♦ Cross-collection searching

Figure 4: Designing of Database:
General Settings
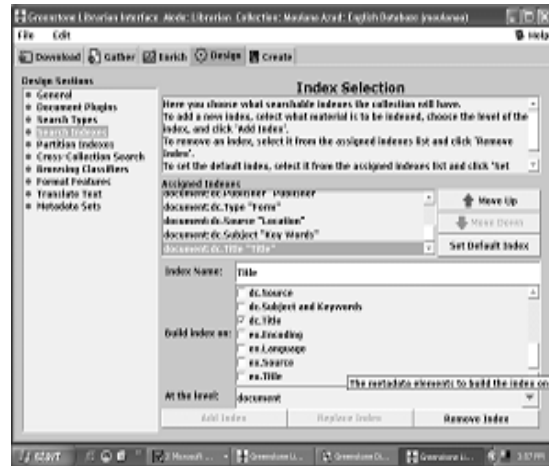
Figure 5: Designing of Database:
Search Indexes

8.3.4 Building the Collection

The last phase is the building of the collection (Fig. 6). All processing will be displayed on the monitor and it will give the information of files or folders that processed and included in the collection and rejected after processing. The preview of collection is possible in this phase by clicking the 'Preview' icon.
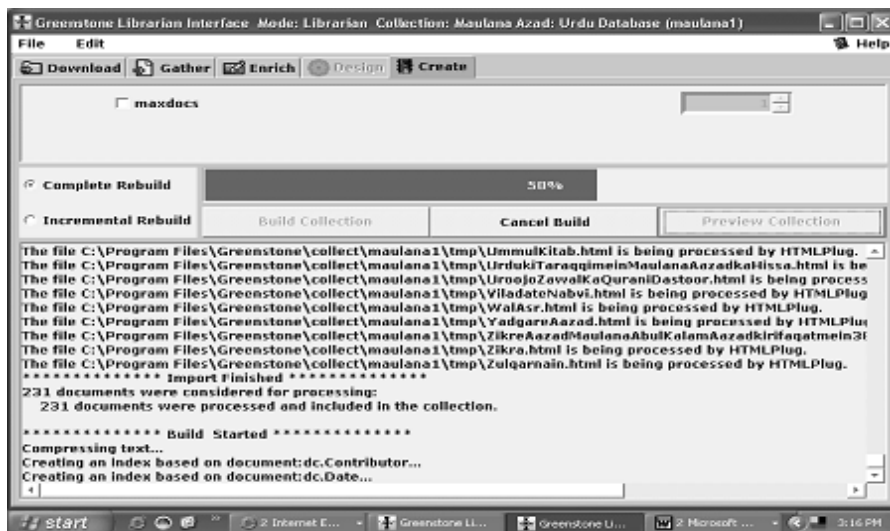

Figure 6: Building Collection

9.   Searching Methods for Accessing Digital Database

Developing a digital collection of documents on Maulana Azad and by him was a Herculean task. Greenstone digital library systems generally include several separate collections. A home page allows users to select a collection; in addition, each collection's "about" page gives information about how the collection is organized and the principles governing what is included.

All icons in the screenshots of are clickable. Those at the top of the page return to the home page (Fig. 7), provide help text, and allow users to set user interface and searching preferences. The navigation bar underneath gives access to the searching and browsing facilities, which differ from one collection to another.
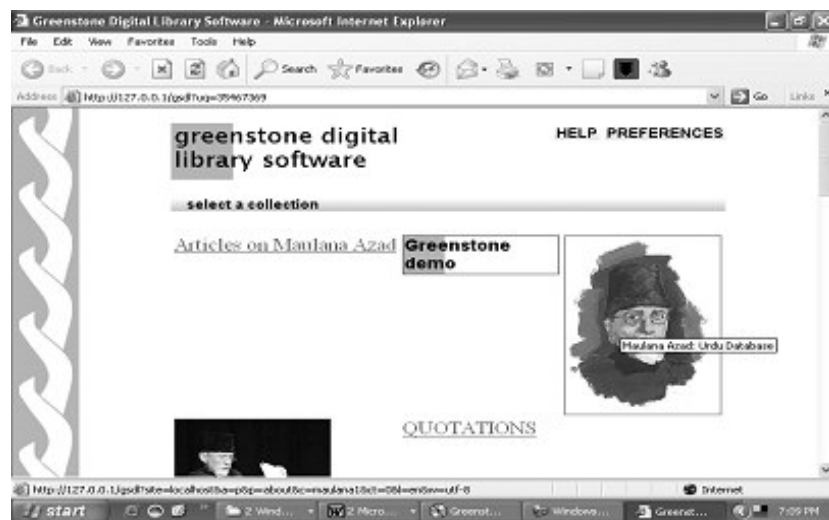
Figure 7: Home page of the Database

Users can search for particular words that appear in the text from the "search" page. This collection contains indexes of chapters, section titles, and entire books. The default search interface is a simple one, suitable for casual users; advanced searching (which allows full Boolean expressions, phrase searching, case and stemming control) can be enabled from the Preferences page.

9.1   Searching the Collections in Greenstone

The easiest way to learn how to use a Greenstone collection is to try it out. Click liberally: most images that appear on the screen are clickable. If users hold the mouse stationary over an image, most browsers will soon pop up a message that tells the users what will happen if he clicks. The "search ... subjects ... titles a-z" (Fig. 8) bar underneath gives access to the searching and browsing facilities.

Figure 8: Database in Urdu language

The leftmost button is for searching, and the ones to the right of it—two, in this collection evoke different browsing facilities. These last two may differ from one collection to another.

9.2.   How to Find Information

There are several ways to search collection in Greenstone. The searchable index that provided to the user may be selected first then put the search term according to the field selected.

The search page can be reached from other pages by pressing the search (Fig. 9) button. Users can access publications by title (Fig. 10) by pressing the titles a-z button. This brings up a list of collections in alphabetic order.
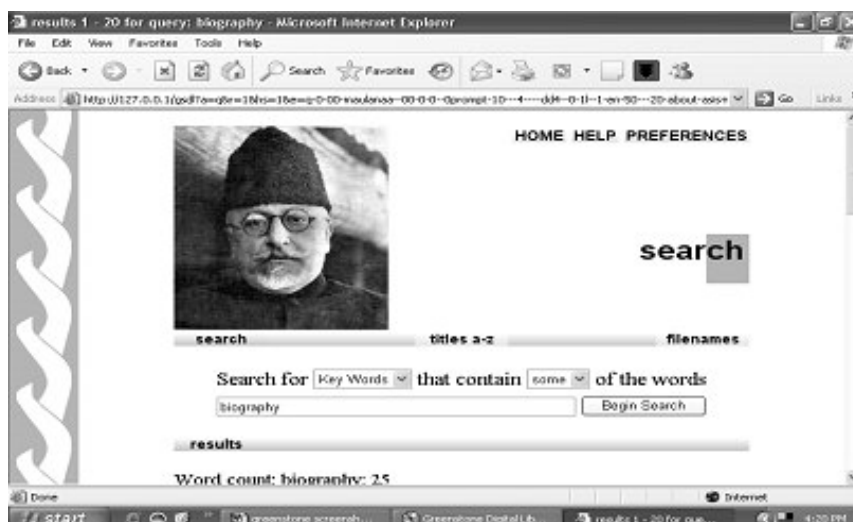

Figure 9: Search Page
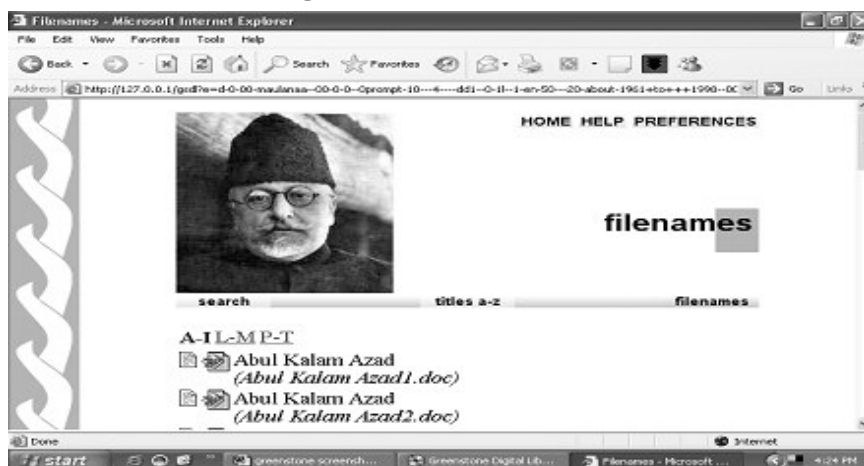
Figure 10: Search for Title

Figure 11: Search for File name

User can access publications by filename **(Fig. 11)** by pressing the filenames button. This brings up a list of entries, sorted by original filename.

9.3   How to Search for Particular Words

From the search page, follow these simple steps to make a query:

♦ Specify what units users want to search

♦ Say whether users want to search for all or just some of the words

♦ Type in the words users want to search for into the query box

♦ Click the Begin Search button

When users make a query, the titles of up to twenty matching documents will be shown. Here user makes a query for Author (Fig. 12).

Figure 12: Search for Author

There is a button at the end to take the users on to the next twenty. From there the users will find buttons to take on to the third twenty or back to the first twenty, and so on. The users can change these numbers by clicking the preferences button at the top of the page.

9.4   Using Search History

When the users switch on the "search history" (Fig. 13) feature on the Preferences page that the users will be shown the last few searches, along with a summary of how many results they generated. He has to click the button beside one of the previous searches to copy the text into the search box. This makes it easy to repeat slightly modified versions of previous queries.

Figure 13: Search History

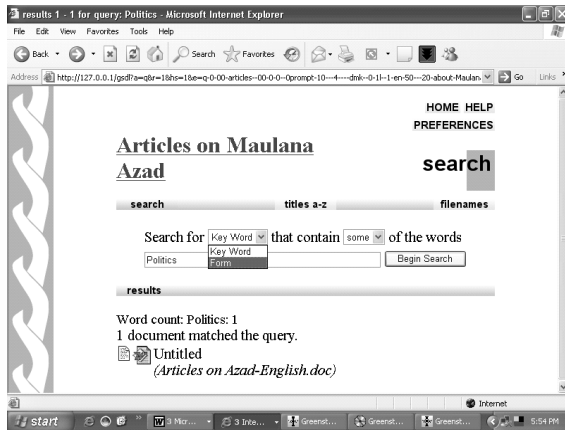## 9.5 The Followings are some screen shots from the Database, Which are self-explanatory.

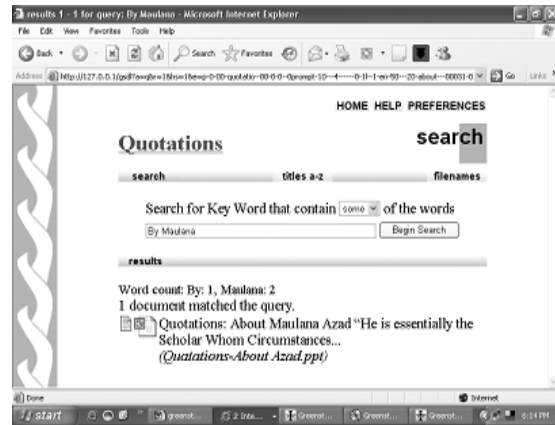**Figure 14: Search from Articles Database**

Figure 15: Search from Quotations Database

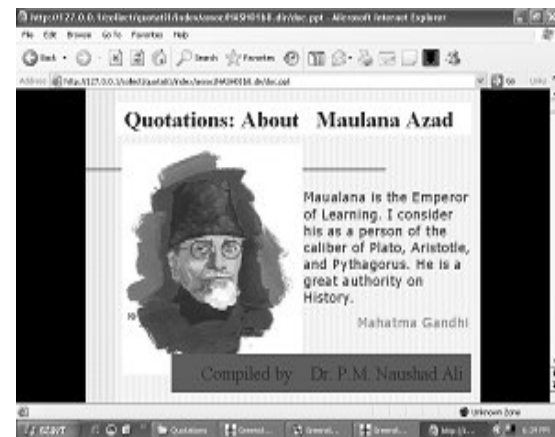**Figure 16: First page of Quotations Database (By Azad)**

Figure 17: First page of Quotations Database (About Azad)

10. Suggestions

1. Full text of the publications on Maulana Azad and written by Maulana Azad can also be included in the digital database but due to the issues of copyright and insufficient funding, only bibliographic information available on Maulana Azad's vision on pluralistic India and his own literature on the same topic are made available.

2. The necessary steps could be taken for wider access of current digital database by giving a hyperlink with the official website of the ICCR Library.

3. An initiative should be taken to develop separate digital databases on contributions and life of father of the nation Mahatma Gandhi and other national leaders like Pandit Jawahar Lal Nehru, Dr. Rajendra Prasad, Sardar Vallabh Bhai Patel etc. using Greenstone Digital Library Software.

11. Conclusion

Pandit Jawaharlal Nehru described Maulana Azad as "a great man – a man of luminaries, intelligence and intellect with an amazing capacity to pierce through a problem to its cause. The word "luminous" is perhaps the best word I can use about his mind. When we miss and when we part with such a companion, friend, colleague, comrade, leader and teacher, there is inevitably a tremendous void created in our life and activity".

The project "Developing a Database on Contribution of Maulana Azad to the Pluralistic India Using Greenstone Digital Library Software" is a humble attempt to spread Maulana Azad's vision and his message to the notice of the common man by digitizing the bibliographic information along with abstracts of each publication on Azad's vision and also published by him and to preserve literature on Maulana Azad for the future generation. The digital database will be much benefited to faculty members, students, researchers and other people those who have interested in life and works of Maulana Abul Kalam Azad.

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