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Vijay Ganesh Wardikar Viju

Mahila Mahavidyalaya, Amravati, librarianmmv@gmail.com

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**A Prototype Design of Bibliographic Database for Doctoral Theses Using
WINISIS : a practical approach**

By

Dr. Vijay Ganeshrao Wardikar

Librarian,

Mahila Mahavidyalaya, Jog Chowk, Amravati.(Maharashtra State)

Affiliated to

S.G.B. Amravati University, Amravati.

E-mail : librarianmmv@gmail.com ; Mobile No. 8830481335

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Dr. Vijay Ganeshrao Wardikar

Librarian,

Mahila Mahavidyalaya, Jog Chowk, Amravati.(Maharashtra State)

Affiliated to

S.G.B. Amravati University,Amravati.

E-mail : librarianmmv@gmail.com ; Mobile No. 9423854136

Abstract : This article explores the techniques for designing and managing the bibliographical database by using the Windows-based ISIS (WINISIS) library software package and specified the brief description of steps taken to create a database of all bibliographic materials as well as features of WINSIS are taken into consideration. The purpose of the paper is to be acquainted college librarians with the distinctive features of the Windows-based ISIS because Microsoft Windows is described as a graphical user environment, which gives the user more control over the work as well as enables the user to use more of the power of the computer. The author has applied practical methods to put forth the techniques for designing and managing the bibliographical database of Doctoral Theses by using WINISIS software package. The author has attempted to find out various aspects to describe the features of the various modules of Windows-based ISIS (WINSIS) library software which would be valuable for those college librarians who faced the crunch of budget and are distressed to manage databases, especially those colleges are situated in rural and tribal areas of India. This paper is originally based on the dissertation made by the author in Degree of Master of Philosophy which is recognized and essential in the research purview of higher education.

Keyword: Bibliographic; Database; Doctoral Theses; FDT;FST; WINSIS; Prototype

Introduction:

A Prototype design of a bibliographic database of Doctoral Theses Using WINISIS” Which are product of research activity form an important Source of information apart from giving the experimental evidence. It also records a thorough review of works that have already been done in a particular field to show that the proposed work is not done elsewhere.

In recent years database technology has become one of the most rapidly growing areas of computer and information science. The database is basically a computer based record keeping system those records and maintains the user information. According to James Martin, “Database is a collection of interrelated data stored together without harmful or unnecessary redundancy to serve multiple applications.

“The term Database was defined by Williams (1974) has an organized set of machine readable records containing bibliographic and document related data”

A database is an organize form of records (a set, a character make a field, a set of fields make a record) collected or created to satisfy the information requirements of a given user community. For the purpose of information storage and retrieval, a database means a bibliographic database in machine readable form.

In other words, an organization of data files having information and reference material on a particular subject, or subjects. It is typically structured so that headings and keywords can be referenced easily, which permits efficient and simple access to – and retrieval of – records. A database is a mechanical formally defined and centrally controlled collection of data used in an organization.

Versions of CDS/ISIS for DOS and WINDOWS

CDS/ISIS for Windows is an information retrieval package developed by UNESCO (the United Nations Educational, Scientific, and Cultural Organization) which runs under Microsoft Windows. Version 1.4 (release 19) was circulated on CD-ROM to distributors in March 2001 and is dated January 2001. This followed version 1.3 which appeared in January 1999 and was the first formally-released version of the package, though beta-test versions had been available to

existing license holders for some time. Version 1.0 was released in 1998. it is designed to run in Windows environment.

The version is release 19b which is available to license holders from UNESCO's FTP site and which corrected some bugs in release 1998.

The package has many features, which distinguish it from commercially produced software. To understand why, it is necessary to look at the history of the package.

CDS/ISIS for Microcomputers was released by UNESCO in 1985. It was called officially **CDS/ISIS Mini-Micro Version** but is usually called **CDS/ISIS** or simply **ISIS**. In Latin America, where the minicomputer package **MINISIS** (developed in Ottawa, Canada, by the International Development Research Centre) is prevalent, the original DOS version was always called **Micro-ISIS**; the Windows version is called **Micro-ISIS** or **WINISIS**.

CDS/ISIS FOR WINDOWS (WINISIS)

Since 1989, when most new microcomputers were supplied with a new operating system called Microsoft Windows, it was inevitable that the users of CDS/ISIS would call for a Windows version, and UNESCO began to develop one in 1995.

Unlike the DOS version, ISIS for Windows is not written in Pascal but in a combination of languages, primarily C and C++. Following the philosophy of the DOS version, a program library is available of programs which can be utilized in the user's own routines in a similar way to that in which Pascal was used in the DOS version. BIREME (the Latin American and Caribbean Center for Health Sciences Information) has cooperated with UNESCO in developing this 'library' and a Dynamic Linked Library (ISIS_DLL) is available containing these routines.

Aims and objectives:

The present paper primarily aims to put forth the techniques for designing and managing the bibliographical database of Doctoral Theses by using WINISIS software package.

Specifically the objectives are:

- 1) To setting up the database and basic features of CDS/ISIS for Wondows.
- 2) To deals thoroughly with all the steps of creation of bibliographic database of doctoral theses including up to printing of records;
- 3) To describe the features of the various modules of WINSIS.
- 4) To focuses on implementation of WINISIS on Microsoft Windows.

Scope of the study:

The scope of the present study has confined to design aspects bibliographic databases of Doctoral Theses for effective resource sharing and providing better information retrieval services in libraries by using CDS/ISIS for Wondows (WINSIS) software package.

Methodology:

Present study is concerned to Library and Information Science. This subject covered under Social Science research. The author has applied practical method to put forth the techniques for designing and managing the bibliographical database of Doctoral Theses by using WINISIS software package.

Statement of Problem:

In the era of information technology, the I.T. Professionals and other organizations are designing effective but very costly software. The small library does not have capacity to carry too much financial burden by purchasing these types of software. However they wish to get their libraries automated and make the resources available to their users by applying very cost-effective software.

As a result, to promote CDS/ISIS for Wondows (WINSIS) a cost free software package the author has opted in for problem namely "A Prototype Design of Bibliographic Database for Doctoral Theses Using WINISIS : a practical approach."

Creating Database :

WINISIS (Window version of CDS/ISIS) a menu driven generalized Information Storage and Retrieval System. The major advantage to design the database in WINISIS is that it is free from writing computer programming for implementation the system as per the local need of any library. The system can be implemented at any place even if the person has little or no prior computer experience. The complete detail of designing this database and then retrieval of information is discussed below.

Database Structure:

The proposed design of the database facilitates various information retrieval operations. The display format has been designed such that data can be displayed according to AACR-2 as far as practicable. Thus the proposed design of the database covers four components.

- the Field Definition Table (FDT)
- the Data Entry Worksheet
- the Display Format
- the Field Selection Table (FST).

Steps Taken to Create the Bibliographic Data: The following steps were taken to create the bibliographic database of Doctoral Theses.

Field Definition Table (FDT):

The FDT defines the fields that may be present in the database and certain parameters for each field. Thus the proposed design of the database covers

- almost all the mandatory fields in the CCF,
- some of the optional fields, and
- some newly added fields which have been considered necessary.

For defining the FDT the values are entered in the boxes which are as follows:

(a) Tag – A tag is a field identifier in the database tag is used to identify the field that is containing the bibliographical details of document. To select the number, or type it in the up and down arrows can be use.

(b) Name – Name is the name of the data fields this is to help for identify the field. It can be up to 31 characters long and can contain spaces. When to set up the data entry worksheet, this name will be used as the prompt for the field. It is also used to specify the field in the “Guided Search” form.

(d) Type. - Type column indicates the type of field such as alphabetic, numeric or alphanumeric. In the CDS/ISIS the field type is a one character code, the field type may be one of the following.

X-Alphanumeric,

A-Alphabetic,

N-Numeric.

(e) Rep -Rep stands for ‘repeatable’ it allow multiple occurrences of this field, e.g. several authors or several descriptors etc.

(f) Pattern/subfields. In a pattern field, the contents of the field have a specific predefined pattern. If the field are dividing into subfields, should list the subfields here (without punctuation or spaces) e.g.

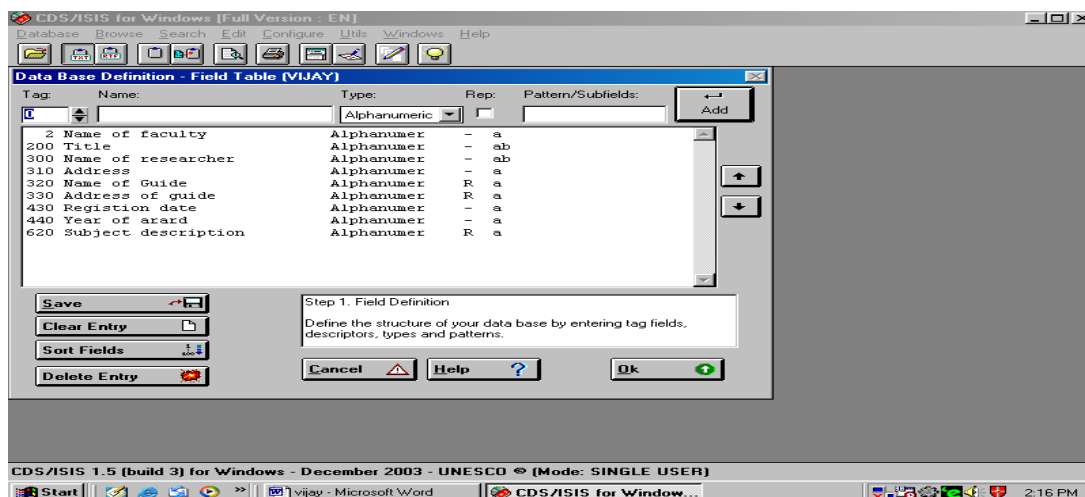
abc

If subfields are not using, press the TM key to leave this box blank.

When entered the data for each field, the focus will be on the **Add** button. Either click the button or press {Enter} to add the field to the table (displayed in the large box). If it has need to correct the details for any field, just click on that entry in the large box and the details will be copied into the boxes used for editing. If needed to remove an entry, highlight it and click the **Delete Entry** button.

Creation of Field Definition Table:

In this step the researcher has to select and define the fields and sub-field as a name work and alphabets like (a,b,c,d.....z) respectively which are essential for searching the database i.e. Title, Name of Research, Name of Guide Year of award etc. and also the details all about Ph.D. thesis as shown in window no.1.



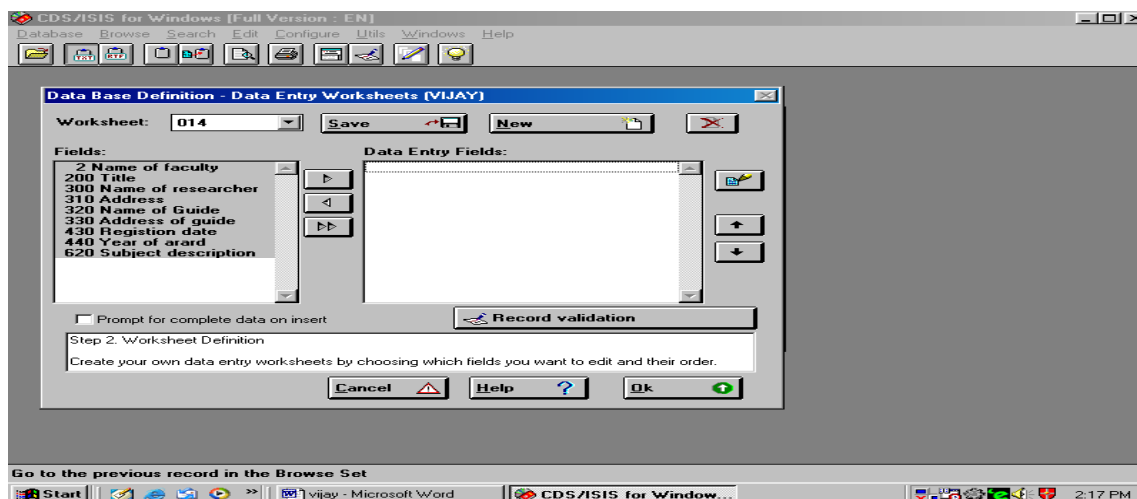
Window no. 1 Field Definition Table

Data Entry Worksheet:

Data entry worksheets are used to enter records or modify records in a database. The data entry worksheet is the electronic equivalent of a pre-printed form for entering data. Once exit the FDT, the system will automatically activate the worksheet creation process and will prompt you to create the data entry worksheet to be used for inputting records in to database. in this step the fields defined in FDT are selected for preparing the worksheet, which is the media for entering the bibliographic data of Ph.D. thesis in the database. This step also facilitates to avoid the fields which are present in FDT but currently not useful for data entry and also facilitates to add it in worksheet. For that single arrow towards right side and single arrow towards left side as shown in (window no.2)

Creation of Worksheet:

In this step the fields defined in FDT are selected for preparing the worksheet, which is the media for entering the bibliographic data of Ph.D. thesis in the database. This step facilitates to avoid the fields which are present in FDT but currently not useful for data entry and also facilitate to add them in worksheet when required. For that purpose single arrow towards right side and single arrow towards left side are given as shown in window no.2.



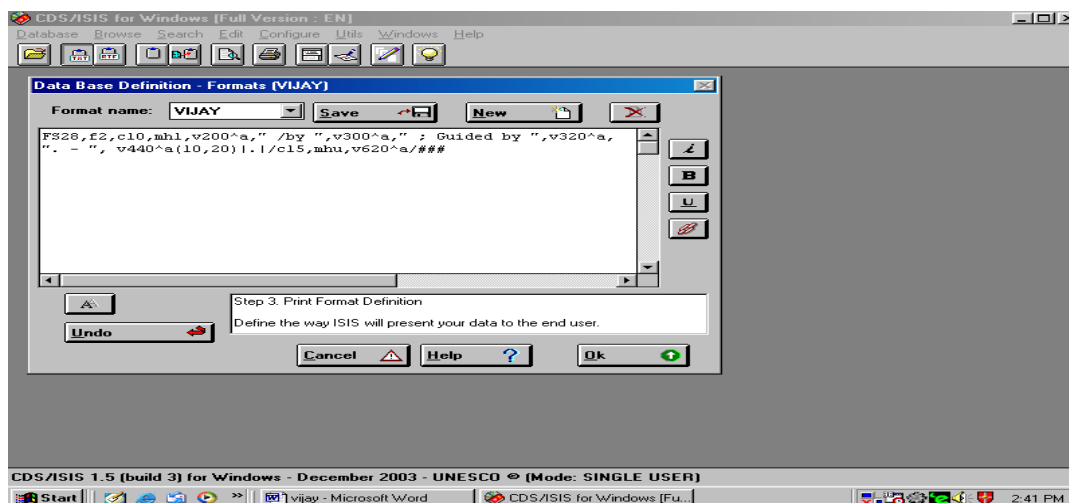
Window no.2 Data Entry Worksheet

Display Format:

Once the worksheet is created the system will prompt to create the default display format. This step facilitates to create display format. A format essentially specifies how the contents of a record are to be displayed at the time of retrieval. It is also used to specify how a record has to be printed. The display format could be as below.

Creating Display Format:

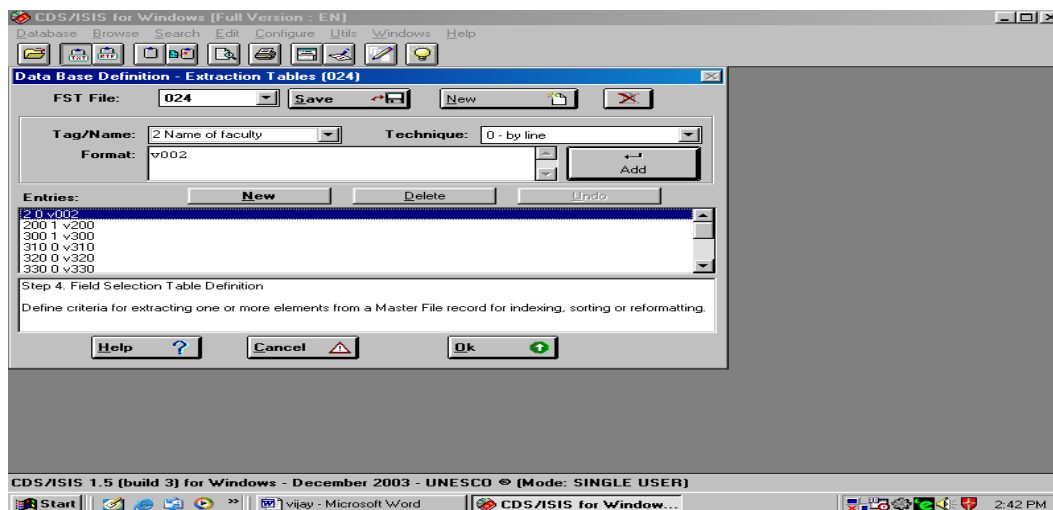
This step facilitates to create Display format, according to the requirement of user's output of bibliographic database of Ph.D. thesis. The software has its inbuilt display format like normal style, CDS/ISIS Dos compatible, Decorated format, HTML Normal and HTML table with Header; besides this the searcher or the user can develop the Display for as he required i.e. as per AACR-2, CCF or any other standard. But to develop Display format researcher has to determine the keys used for developing display format.



Window no.3 Display Format

Field Selection Table (FST)

The last step in the creation of a database is to define the FST(Field Select Table).This step involves selection of fields for searching point of view. FST is a combination of display format technique and indexing technique. This step involves selection of fields, which are useful for searching the database i.e. Author, Title and Keywords etc. as shown in (window no.4).

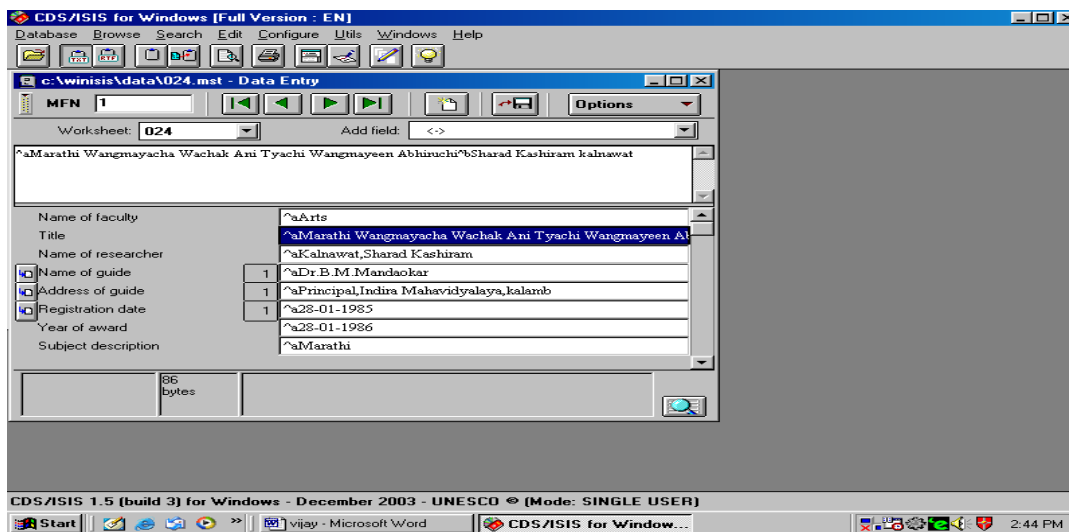


Window no.4 Field Select Table

Creation of Data Entry:

Once the structure of a database has been defined, records can be input into the database using Data Entry Services. Data entry permits addition, modification, editing and deletion of records. This function is available in the 'EDIT' menu of the WINISIS software. While entering the data in field and sub-field the key “ ^ ” (cap) is used before the alphabets used in FDT to

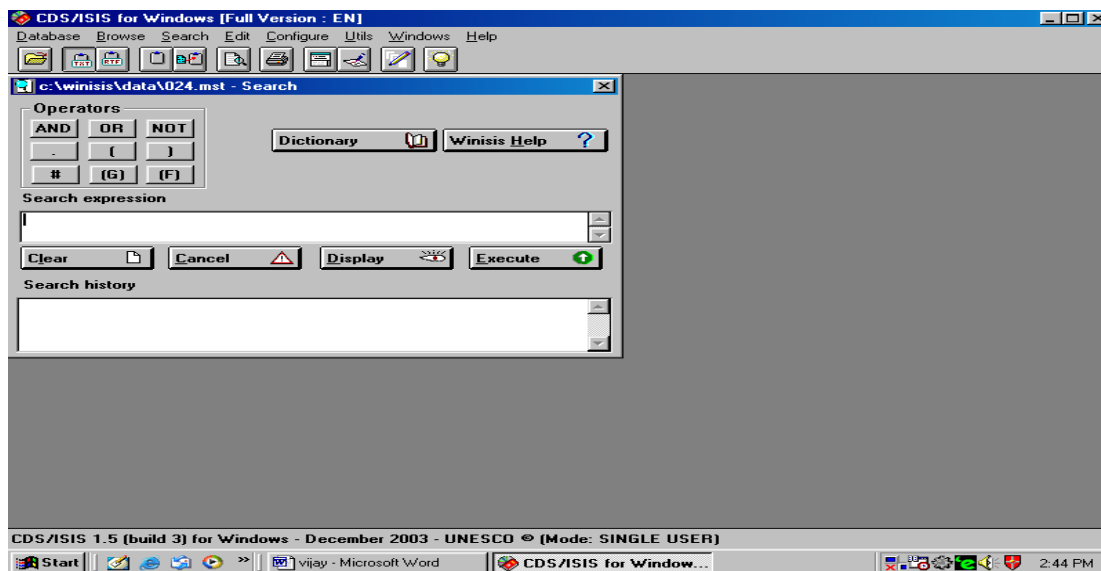
denote the sub-fields. Mistake in data entry directly affect the output of search, but it can be repair with the help of Edit Menu as shown in (window no.5)



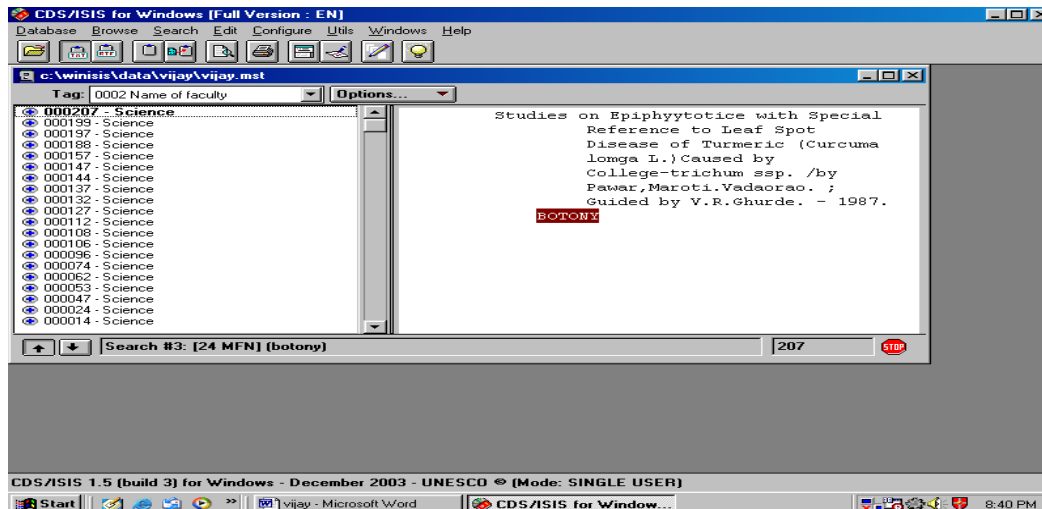
Window no.5 Data Entry Window

Developing Search Strategy

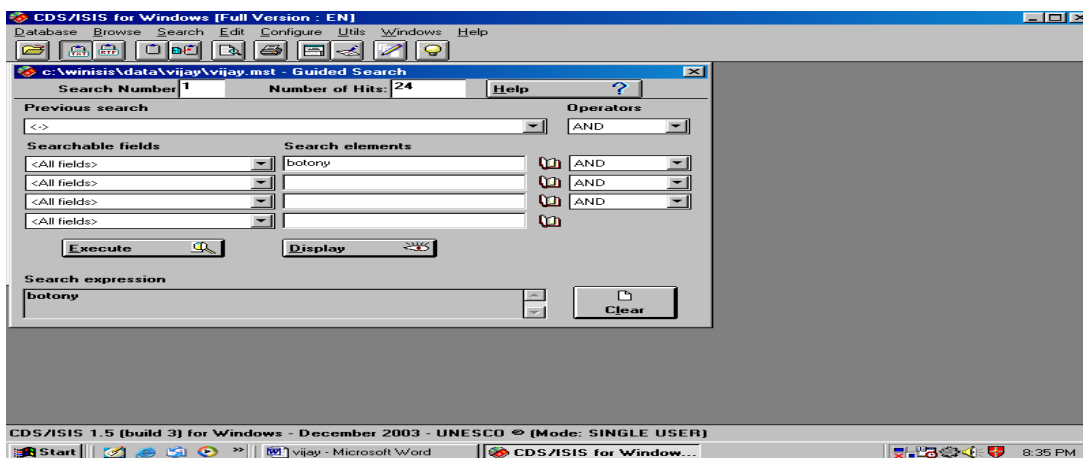
It is frequently necessary to combine two or more terms in a search for specific piece of information for that, WINISIS provides expert search and guided search in which logical operators ‘AND’, ‘OR’ and ‘NOT’ are used to broaden or narrow the search denoted by *, +, ^ respectively. Similarly it is also facilitate truncation search denoted by “\$” sign to look for a number of words or terms starting with the same letters as shown in window no.6A and 6B.



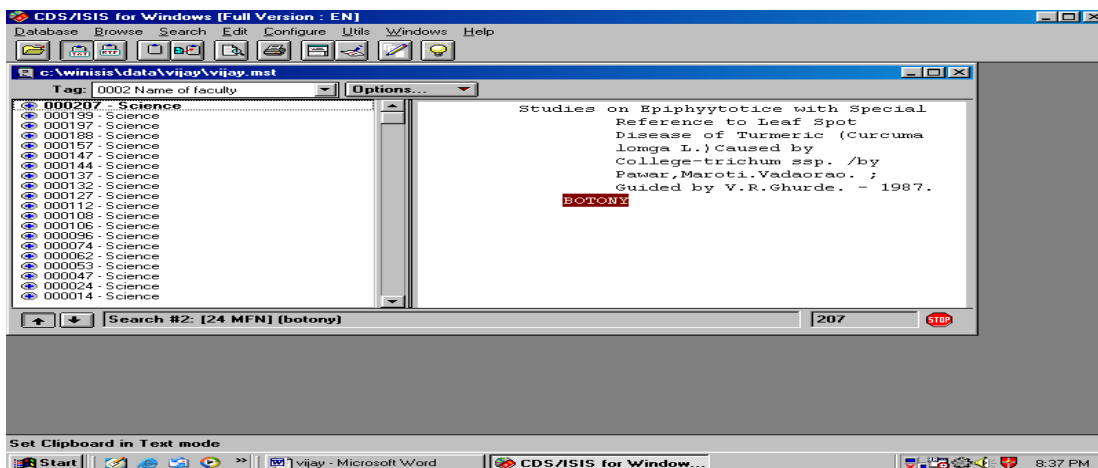
Window no.6A:Expert Search Window



Window no.6B Expert Search Result



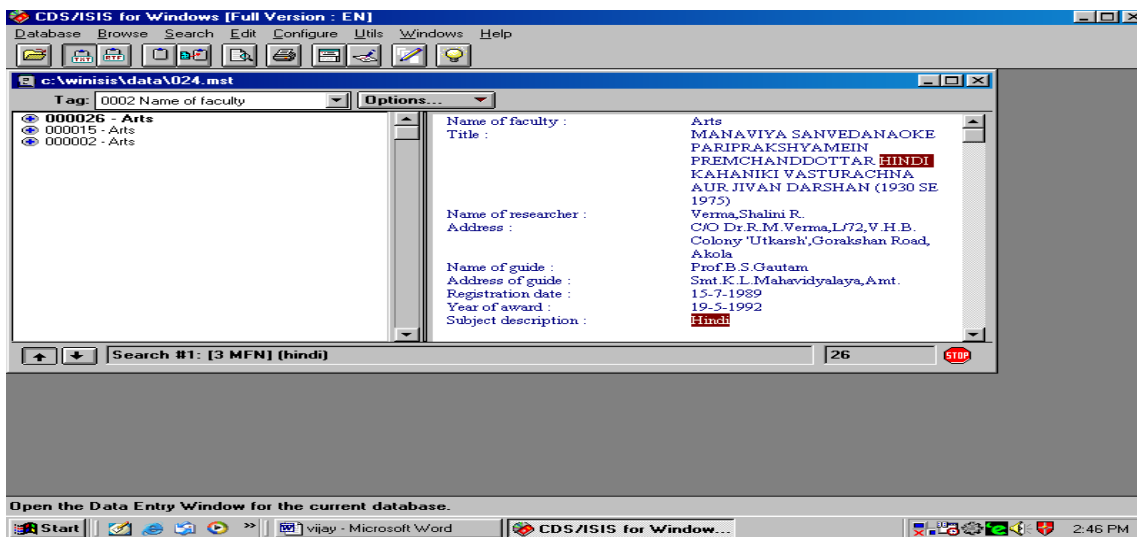
Window no.6 C Guided Search



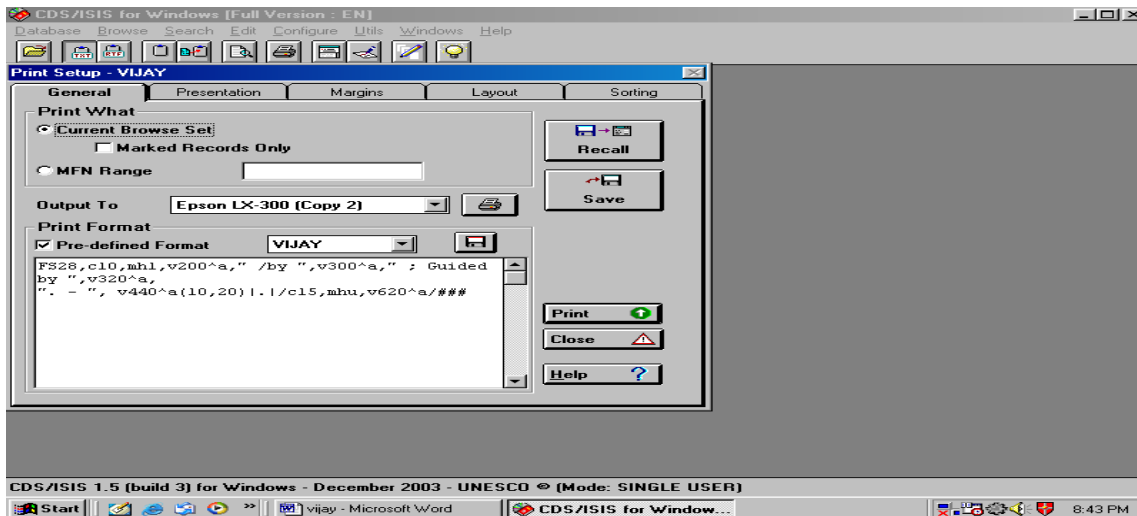
Window no.6D Guided Search Result

WINISIS provides the option of Guided Search with the help of this any keyword type in search element all the entries will display with highlighting the terms as shown in Window no.6C, and 6D.

The result of the search, retrieved records and display the list of retrieved items in the left side of the window, by clicking on the items listed one can see the details about the record on the right side of the window as shown in **Window no.7**. Each term searched on is highlighted wherever it occurs in the record even if the search is specified on one field only as shown in the **Window no.7**.

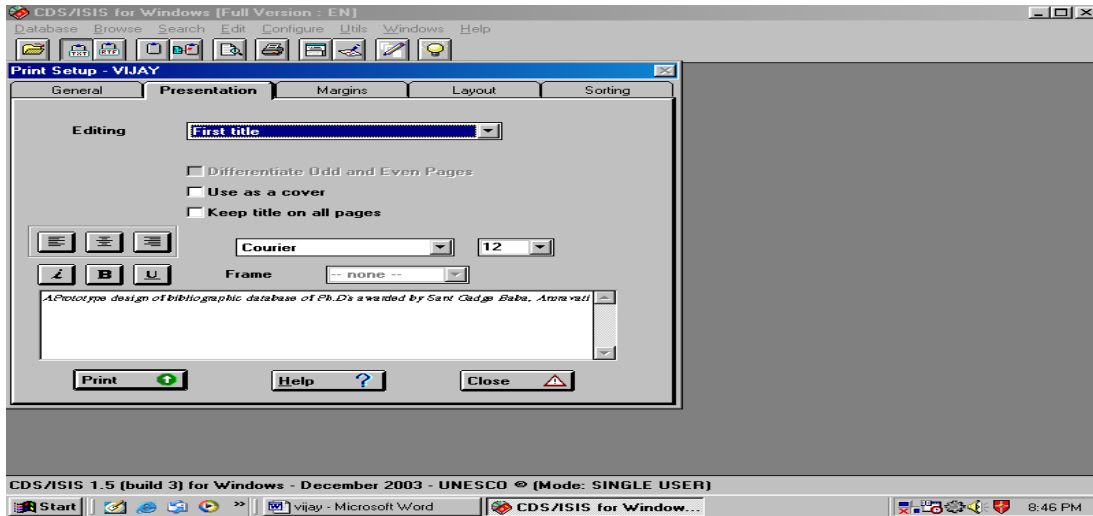


Window no.7 Highlighting of Retrieve Terms



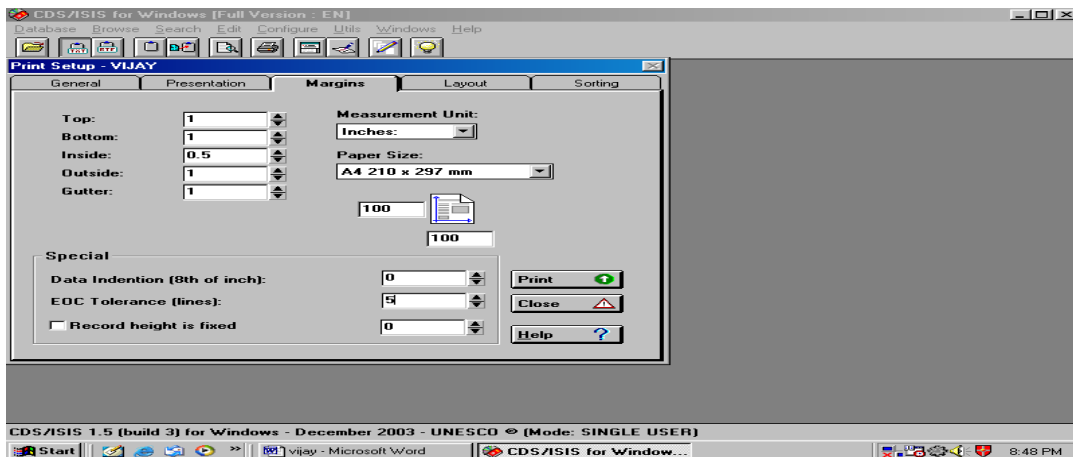
Window no.8 Sorting and Printing (General Setting)

Above window provides the facility of printing setup which has involved, the records with the marks to print, MFN range, selection of printer, selection of formatting language and after all this selection the user can 'save' the setup and able to print the job. This all selection of every provided facilities are setting up by author as possible as better.



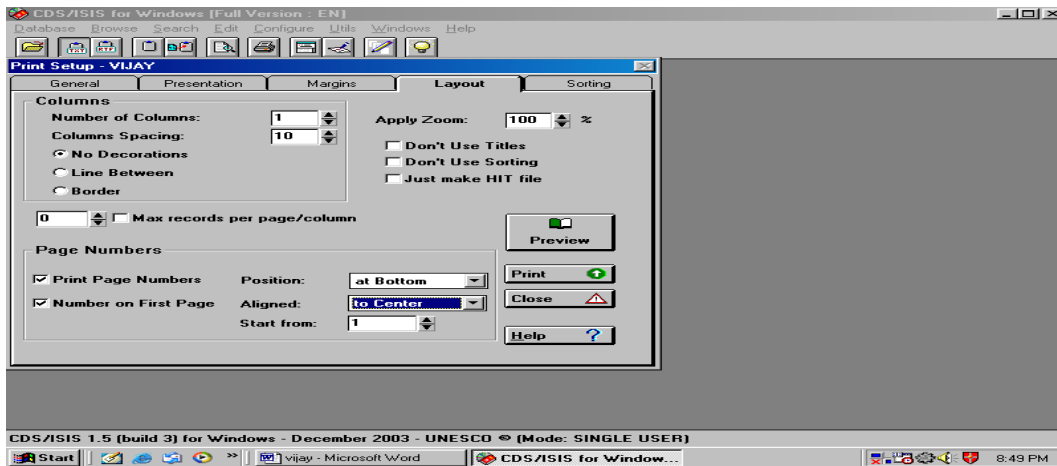
Window no.8A Presentation Window

In this window 8A the presentation of printing job on paper has been selected by the researcher to present appropriately the setup which are as follows, Editing-to select the First title, Second Title, Third title of the particular job, the window also provides the font setup i.e. font type, font size, font style, alignment of the paper i.e. left, right or center of text all these has been selected setup of the researcher.



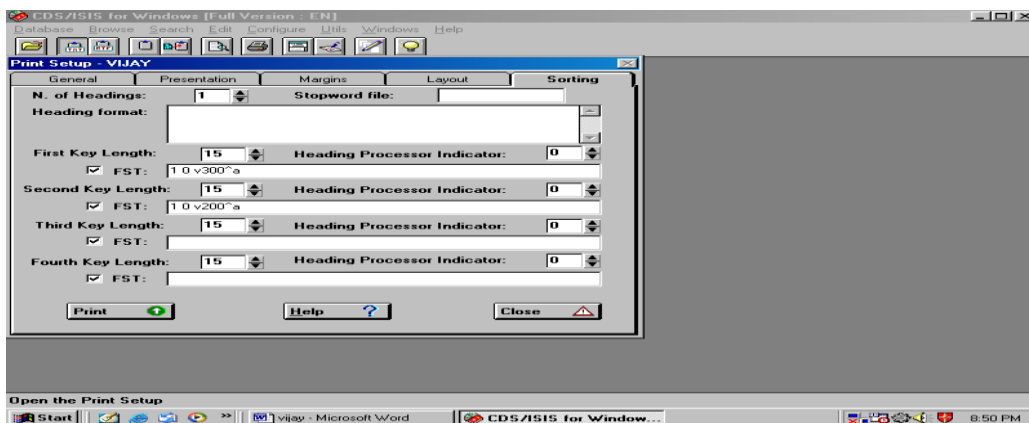
Window no.8B Margins setting for Print Format

The above figure is the part of previous window (8A), it the setup of page margins or page setup to take the print outs on paper in appropriate manner. The researcher has selected measurement in Inches Unit, the top and bottom is 1” Outside and Gutter is 1” and inside has selected 0.5 inches of text. The paper size is A4 (210 x 297) and EOC Tolerance is 5 (line spacing) in single space for print the entries on every page in similarly.



Window no.8C Layout setting for Print Format

This figure shows the complete layout of the page which has to print on paper in proper setting up, the researcher has selected the single column, column spacing is 10, the zoom is 100%, page numbers position has selected at bottom and the number aligned to center and these page numbers starts from no. 1.



Window No.8D Sorting Setting for Print Format

This last setup window of CDS/ISIS to print the job appropriately. 'Sorting' the main presentation of the print out on paper the above window prints the job as per the selection of researcher's activity. The researcher has selected the First, Second and Third key length is 15 characters, which sort on 'Title', and 'Author'.

In such a way, the bibliographic database of Doctoral Thesis can be ready by Winsis, which is also free of cost, so that the library with financial credentials should take advantage of this internationally acclaimed software.

Conclusion:

CDS/ISIS for Windows is, as its name implies, a Windows-based system. Windows programs have many distinctive features as a result of the Windows operating system. Microsoft Windows is described as a graphical user environment, which gives user more control over the work as well as enabling user to use more of the power of the computer. It allows running more than one program at the same time. Thus it allows user to have more than one CDS/ISIS database open.

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CERTIFICATE OF ORIGINALITY

This is to certify that the reported work entitled, **A Prototype Design of Bibliographic Database for Doctoral Theses Using WINISIS : a practical approach** submitted for publication in Library Philosophy and Practice is an original work and has not been submitted/published elsewhere. I further certify that proper citations to the previous reported work have been given and no data/tables/figures have been quoted verbatim from other publications without giving due acknowledgement and without the permission of the original author(s).

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Amravati. 444606. Maharashtra State.

E-MAIL ADDRESS: librarianmmv@gmail.com; vijaywardikar123@rediffmail.com

Contact No.: 8830481335