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DESIGN AND IMPLEMENTATION

OF BIBTEX EDITOR

BINGQUAN WANG

A MAJOR REPORT

IN

THE DEPARTMENT

OF

COMPUTER SCIENCE

PRESENTED IN PARTIAL FULFILLMENT OF THE EQUIREMENTS

FOR THE DEGREE OF MASTER OF COMPUTER SCIENCE

CONCORDIA UNIVERSITY

MONTREAL, QUEBEC, CANADA

JANUARY 2002

Abstract

Design and Implementation of BibTex Editor

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This report describes the design and implementation issues of BibTex Editor. The program is intended to facilitate the creation and editing of BibTex files. The focus of the program is to make the creation and editing of BibTex bibliography a simple task.

First all, we talk about the requirement of the BibTex Editor, for example, the program can make the creation and editing of BibTex file easily; the user interface can change based on the different entry type; finally, we can get a new BibTex file.

Secondly, we give the detail of design and implementation based on the above specification, for example, the BibTex Editor is intended to work like a database program. The program can import the BibTex file into database records; can edit those records easily; can export database records into a new BibTex file. Also, some screen of the GUI interface pages and related coding are presented.

Finally, we describe how to use the program, and some work that should be done in the future.

Acknowledgments

I really would like to take this chance to express my sincere gratitude to my major report supervisor, Dr. Peter Grogono. He is very kind, and his consistent guidance and enthusiastic support during the development of this major report made the whole work a pleasant and extremely educational experience. I am grateful to the people who provided comments, corrections, critiques, and criticisms.

I am also grateful to the professors and staffs in Computer Science department at Concordia for the wonderful courses and services. I would like to thank Ms. Halina Monkiewicz, she has been given me a lot of help since I first came to Concordia.

Finally, I want to say thanks to my wife and my mother-in-law for their understanding and continuous encouragement and support, because I just got a small boy when I was doing the major report. I should say sorry to my lovely son for not being able to get enough time to take care of him.

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Chapter 1

Introduction to BibText File

1.1 What is LaTex?

LaTeX is a document preparation system, a special version of Donald Knuth's TeX program. TeX is a sophisticated program designed to produce high-quality typesetting, especially for mathematical text. It takes a computer file, prepares according to the "rules" of TeX, and converts it to a form that may be printed on a high-quality printer, such as a laser writer, to produce a printed document of publication quality.

LaTex is a typesetting language that runs circles around standard word processing programs. This means you can define new commands and do rather complex things. It is not really harder to use than standard word processing programs. LaTeX is *not* a word processor! Instead, LaTeX encourages authors *not* to worry too much about the appearance of their documents, but to concentrate on getting the right content.

LaTeX is based on the idea that it is better to leave document design to document designers, and to let authors get on with writing documents.

LaTeX contains features for:

- Typesetting journal articles, technical reports, books, and slides presentations.
- Control over large documents containing sectioning, cross-references, tables and figures.

- Typesetting of complex mathematical formula.
- Advanced typesetting of mathematics with AMS-LaTeX.
- Automatic generation of bibliographies and indexes.
- Multi-lingual typesetting.
- Inclusion of artwork, and process or spot color.
- Using PostScript or Metafont fonts.

1.2 LaText and BibText

BibTeX is a program and file format designed by Oren Patashnik and Leslie Lamport in 1985 for the LaTeX document preparation system. The format is entirely character based, so it can be used by any program (although the standard character set for accents is TeX). It is field (tag) based and the BibTeX program will ignore unknown fields, so it is expandable. It is probably the most common format for bibliographies on the Internet.

BiBTeX is a program associated with LaTeX that creates bibliographies. The format of the bibliographies is defined by a "bst" file, which is a programming language. The nice thing about BiBTeX is that you simply insert things like \cite{Shannon1948} into your text and the programs take over from there, automatically formatting and sorting the references.

1.3 Format of .BIB File

The format of the .bib file specifies the name of the bibliography database file to be compiled by BibTeX. If the file specification does not include a file type, BibTeX assumes a default type of .BIB file.

The .BIB file is which contains the actual bibliographic information. It consists of a series of entries, each of which represents on record. The entries have the form

@ARTICLE { My_Brilliant_Paper,

author = { Isaac Newton and Naomi Campbell },

title = { A Re-formulation of the Laws of Gravity with Respect to Really Cool Models},

journal = { Phys. Rev. Lett. },

volume = 52,

page = { 1—1023 }

}

Each entry consists of the following parts:

- The Type of the entry (in this case @ARTICLE) is used by BibTex to determine the formatting of the entry.
- The Key or name of the entry (in this case My_Brilliant_Paper) is the string to which one refers from within LaTex in order to refer to the entry.
- The fields of the entry contain the actual information.

The whole entry is enclosed in a pair of braces (which can optionally be changed to parentheses), and the fields are separated from each other and from the key by commas. Whitespaces (space, tab and end-of-line) are ignored in the usual

manner. BibTex ignores the case of the entry type and field names, however case is important in the entry names.

Each entry type typically utilizes a different set of fields, some of which are required and the other optional or ignored.

The text of a field must either be enclosed in double quotes (i.e. "field") or braces (i.e. {field}). These quotes or braces may be optionally omitted around text consisting entirely of numerals. If a field has multiple entries, for example a book that is coauthored, the field should be entered once and multiple names combined with "and", as in "Bob Smith and Sally Jones". Currently, the Citation system requires each field of a Bibtex reference to be on a single line.

A reference can be to any of a variety of types. Each one also explains the fields associated with that type. Any fields not listed as required or optional are considered to be ignored.

A .BIB file includes a lot of entry, each entry could have different entry type, and determines different formatting of the entry type, but the general formatting of the entry as follows:

@entry_type{Citation_Key, required_fields[,optional_fields]}

ENTRY TYPE

Determine the formatting of the entry.

CITATION KEY

This field is necessary for BibTex. The Citation_Key field has to be unique and is used in BibTex file by:

@entry_type{Citation_Key, required_fields[,optional_fields]}

REQUIRED Fields

Certain fields are required for each type of reference, if you don't want question marks and the like in the list of references. One of the advantages of BibTex is that it keeps track of what is required of a bibliography.

OPTIONAL Fields

References to books sometime have volume number, edition etc. These fields are optional. Formatting will be correct, even if these are empty.

IGNORED Fields

You can have whatever fields you want in a BibTex file. Those fields that are not required or optional will simply be ignored when compiling a list of references. Abstracts, notes and subject keys are examples of things that can be useful to have in the file, but not in the list of references.

1.4 Entry Type

When entering a reference in the bibliography database, the first thing to decide is what type of entry it is. No fixed classification scheme can be completed, but BibTeX provides enough entry types to handle almost any reference reasonably well.

References to different types of publications contain different information; a reference to a journal might include the volume and number of the journal, which is usually not meaningful for a book. Therefore, database entries of different types have different fields for each entry type; the following are the standard entry types, along with their required and optional fields, that are used by the

standard bibliography styles. The fields within each class (required or optional) are listed in order of occurrence in the output, except that a few entry types may perturb the order slightly, depending on what fields are missing. Some nonstandard bibliography styles may ignore some optional fields in creating the reference. Remember that, when used in the .BIB file, the entry type name is proceeded by an @ character.

1.4.1 Article Entry - An article from a journal or magazine

Format: @ARTICLE{citation_key, required_fields [, optional_fields] }

Required fields: author, title, journal, and year

Optional fields: volume, number, pages, month, note, key

1.4.2 Book Entry - A book with an explicit publisher

Format: @BOOK{citation_key, required_fields [, optional_fields] }

Required fields: author or editor, title, publisher, year

Optional fields: volume, series, address, edition, month, note, key

1.4.3 Booklet Entry- A work that is printed and bound, but without a named publisher or sponsoring institution

Format: @BOOKLET{citation_key, required_fields [, optional_fields] }

Required fields: title

Optional fields: author, how published, address, month, month, year, note, key

1.4.4 Conference Entry- An article in the proceedings of a conference. This entry is identical to the 'in proceedings' entry and is included for compatibility with another text formatting system.

Format: @CONFERENCE{citation_key, required_fields [, optional_fields] }

Required fields: author, title, book title, year

Optional fields: editor, pages, organization, publisher, address, month, note, key

1.4.5 Inbook Entry - A part of a book, which may be a chapter and/or a range of pages.

Format: @INBOOK{citation_key, required_fields [, optional_fields] }

Required fields: author or editor, title, chapter, and/or pages, publisher, year

Optional fields: volume, series, address, edition, month, note, key

1.4.6 Incollection Entry - A part of a book with its own title

Format: @INCOLLECTION{citation_key, required_fields [, optional_fields] }

Required fields: author, title, book title, and year

Optional fields: editor, pages, organization, publisher, address, month, note, key

1.4.7 Inproceedings Entry - An article in the proceedings of a conference

Format: @INPROCEEDINGS{citation_key, required_fields [, optional_fields] }

Required fields: author, title, book title, year

Optional fields: editor, pages, organization, publisher, address, month, note, key

1.4.8 Manual Entry - Technical documentation

Format: @MANUAL{citation_key, required_fields [, optional_fields] }

Required fields: title

Optional fields: author, organization, address, edition, month, year, note, key

1.4.9 Mastersthesis entry - A Master's thesis

Format: @MASTERSTHESIS{citation_key, required_fields [, optional_fields] }

Required fields: author, title, school, year

Optional fields: address, month, note, key

1.4.10 Misc Entry - Use this type when nothing else seems appropriate

Format: @MISC{citation_key, required_fields [, optional_fields] }

Required fields: *none*

Optional fields: author, title, howpublished, month, year, note, key

1.4.11 Phdthesis Entry - A PhD thesis

Format: @PHDTHESIS{citation_key, required_fields [, optional_fields] }

Required fields: author, title, school, year

Optional fields: address, month, note, key

1.4.12 Proceedings Entry - The proceedings of a conference

Format: @PROCEEDINGS{citation_key, required_fields [, optional_fields] }

Required fields: title, year

Optional fields: editor, publisher, organization, address, month, note, key

1.4.13 Techreport Entry - A report published by a school or other institution, usually numbered within a series

Format: @TECHREPORT{citation_key, required_fields [, optional_fields] }

Required fields: author, title, institution, year

Optional fields: type, number, address, month, note, key

1.4.14 Unpublished Entry- A document with an author and title, but not formally published

Format: @UNPUBLISHED{citation_key, required_fields [, optional_fields] }

Required fields: author, title, note

Optional fields: month, year, key

1.5 Fields Type

The listed below is a list of all fields recognized by the standard bibliography styles. An entry can also contain other fields, which are ignored by those styles. BibTeX ignores the case of letters in the field names.

1.5.1 Title

Title of the publication.

1.5.2 Author

Name of the author or names of the authors separated with "and". The entry of the name can be executed in different styles:

Donald E. Knuth and Albert Einstein or Knuth, Donald E. and Einstein, Albert

1.5.3 Journal

Name of the journal, e.g. "Science", "Nature".

1.5.4 Volume

Volume of the journal (a number).

1.5.5 Number

Number of a journal or a technical report. Journals are often labeled with a volume *and* a number.

1.5.6 Pages

Page or pages of the article in a journal or a book or proceedings, . . . (e.g. 45–67 *or* 45 *or* 112+). Don't forget to make two dashes:"–" for typographic reasons!

1.5.7 Year

Year of publication. If the paper is unpublished, enter the year of origin.

1.5.8 Month

Month of publication. Use the abbreviations: Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, sep, Oct, Nov, and Dec.

1.5.9 Booktitle

Title of the book, that contains the paper. If the citation *is* a book use the field title instead.

1.5.10 Chapter

Number of the chapter or section, or similar.

1.5.11 Edition

Edition of a book. Enter: First, Second, . . . Start with a capital letter.

1.5.12 Series

Name of the series of a set of books. Use title for the title of the book and series for the name of the series.

1.5.13 Editor

Name of editor, or names of editors separated with "and". For example, Donald E. Knuth and Albert Einstein or Knuth, Donald E. and Einstein, Albert

1.5.14 Publisher

Name of the publisher: e.g. "Springer", "Elsevier".

1.5.15 Institution

Name of the institution.

1.5.16 Address

Address of the publisher or of any other institution. In case of a "big" publisher the statement of the city is sufficient. This field is filled out automatically if publisher templates are used.

1.5.17 Howpublished

A kind of publishing will be put in, if no other field fits.

1.5.18 Organization

Name of the organization that financed a conference or a manual.

1.5.19 School

Name of the university where the mastersthesis or PhD thesis was written.

1.5.20 Note

Additional BibTex comment.

1.5.21 Key

Alternative key to be sorted for. Only used, if no entry in the author or editor field is available.

1.5.22 Type

Type of the technical report. It will be used instead of the standard "technical report".

Chapter 2

Requirement of BibTex Editor

2.1 Introduction to BibTex Editor

As we know, BibTex is a program used in conjunction with LaTeX to make it easy to use LaTeX's built-in bibliography and citation mechanisms. For example, when you cite the work of others, the citation often appears like this [2], or this [4, 6, 20]. To number these manually will be a big problem, but not as big as the other problem of typing in the references at the end of your document. Typically, you will compile a large number of references into a *bibliography database*, from which you extract those cited in your document. works with LaTeX to *automatically* extract those references you require, *and* puts them into your document, correctly numbered, sorted and formatted. All you have to do is identify each reference within the bibliography database with a unique (and for your own sake, informative) key. You can then use the \cite{*key*} command to cite that particular reference. When you run LaTeX on your file, it collects all of these keys; you then run to scan your bibliography database for them. extracts and formats them according to certain styles. By running LaTeX a second time the reference list is incorporated into your document.

BibTex Editor is intended to facilitate the creation and editing of BibTex files. The focus of the program is to make the creation and editing of the BibTex bibliography a simple task.

2.2 Function of BibText Editor

BibTex Editor is designed to manage Scientific Literature, and based on processing BibTex format file. The main features of BibTex Editor here have:

- Read a .BIB format file

  To parse a .BIB format file, and store into database

- Insert a new entry, Update and Delete an existing entry

  To insert a new entry, modify some items in an existing entry or delete an existing entry using user interface

- Search any entry type based on keyword

  To allow user to search an entry based on keyword in the database

- Navigate any entry based on the entry order (for example, First, Previous, Next, Last)

  To allow user to locate any entry, for example, the user can move to the first entry, move to the last entry, move to the previous entry based on the current entry or move to the next entry based on the current entry

- Abbreviate function available when insert and update a entry

  To allow the user to use abbreviate function when he/she insert a new entry or update an existing entry, but the abbreviate function only available to publisher field or howpublished field.

- "Intelligent" interactive interface based on entry type

  The user interface will change the face if entry type is different. For example, the user interface will show you the different face if the current entry type is different with next entry type or previous entry type.

2.2.1 Read a .BIB file

What is the exactly meaning to read a .BIB file? In face, it is to parse each entry item in a .BIB file and import all entry data into database.

The .BIB file contains a description of all the article, book, papers, conference proceedings, theses etc. Below is an example format of entry item in the .BIB file.

```
@book { agre86,
editor="W. Agresti",
title="New Paradigms for Software Development",
publisher="IEEE Computer Society",
year=1986,
courses=647,
note="{\callnum{QA 76.76 D47N49 1986}}"
}

@article { aho89,
author="A.V. Aho and M. Ganapathi and S.W.K. Tjiang",
title="Code generation using tree matching and dynamic programming",
journal=toplas,
volume=11,
number=4,
pages="491-516",
```

month = Oct,

year=1989,

courses=642

}

@inproceedings { abit95,

author="Serge Abiteboul and Jan Van den Bussche",

title="Deep Equality Revisited",

editor="T.W. Ling and A. O. Mendelzon and L. Vieille",

booktitle="Deductive and Object-Oriented Databases: Fourth International Conference, DOOD '95, Singapore, December 4-7, 1995, Proceedings",

series="LNCS",

number="1013",

publisher="Springer-Verlag",

address="Berlin and Heidelberg and New York",

year=1995

}

@incollection { abri85,

author="J. R. Abrial",

title="Programming as a mathematical exercise",

booktitle="Mathematical Logic and Programming Languages",

```
editor="C. A. R. Hoare and J. C. Shepherdson",
publisher=ph,
address="Englewood Cliffs, NJ",
pages="113-139",
year=1985
}
```

In the examples above, the required fields for the entry are indicated in bold face type. When the BibTex Editor reads a .bib file, it has to parse the entire entry item, and each entry as a record store into the database.

2.2.2 Insert a new entry

The BibTex Editor inserts a new entry reference into database, that means the copy editor could input a reference documentation easily via a user's friendly interface.

During doing insert, it is possible to import an Abbr. .BIB file; to insert a new Abbr. Entry; to update a existing Abbr. Entry; to delete an existing Abbr., to entry and so on. For more detail, we will talk about at following section.

2.2.3 Update a existing entry

The BibTex Editor must allow the copy editor to do any change on the any entry item at any time.

2.2.4 Delete a existing entry

The BibTex Editor must allow the copy editor to delete any entry item at any time.

2.2.5 Navigate a existing entry

The BibTex Editor must allow the copy editor to search any entry item based on citation key, and could navigate the record to first entry, last entry, previous entry and next entry at any time.

2.2.6 Create a new .BIB file

The BibTex Editor can create a new .BIB file from database after the copy editor to do any change on the any entry item at any time.

2.3 Intelligent Interactive Interface

The BibTex Editor must have an intelligent interactive interface to make the copy editor easy to use, and show different user interface based on the different entry type the copy editor is operating. Because the different entry type has different fields, for example, if the entry type is ARTICLE for the moment, the BibTex Editor should show: author, title, journal, year with bold font as required fields; volume, number, pages, month, note, key with normal font as optional fields. If the entry type is BOOK for the moment, the BibTex Editor should show: author or editor, title, publisher, year with bold font as required fields; volume, series, address, edition, month, note, key with the normal font as optional fields.

2.4 Abbreviation Function

The @STRING command is used to define abbreviations for use by BibTeX within the bibliography database file. The command

@string{jgg1 = "Journal of Gnats and Gnus, Series~1"}

defines 'jgg1' to be the abbreviation for the string "Journal of Gnats and Gnus, Series~1". Parentheses can be used in place of the outermost braces in the @string command, and braces can be used instead of the quotation marks. The text must have matching braces.

The case of letters is ignored in an abbreviation as well as in the command name @string, so the command above could have been written:

@STRING{JgG1 = "Journal of Gnats and Gnus, Series~1"}

A @string command can appear anywhere before or between entries in a bibliography database file. However, it must come before any use of the abbreviation, so a sensible place for @string commands is at the beginning of the file. A @string command in the bibliography database file takes precedence over a definition made by the bibliography style, so it can be used to change the definition of an abbreviation such as 'Feb'.

Chapter 3

Design of BibTex Editor

3.1 Introduction

Analysis based on above requirement, BibTex Editor is intended to work like a relational database program. The database consists of a number of records – the references. Each record has a number of fields such as Author, Title and Pages. Depending on the type of reference, the fields will differ. BibTex distinguishes between three different types of fields: required, optional and ignored, for example, the PUBLISHER field is required for a BOOK reference, but is ignored for an ARTICLE.

BibEditor is designed to manage Scientific Literature, and based on processing BibTex format file. The whole data can be Import from and Export to BibTex file. The main functions of BibTex Editor are:

- Read a .bib format file and store all the information into database
- Insert new entry, Update and Delete existing entry any time
- Search based on keyword
- Find based on the entry order (e.g. First, Previous, Next, Last)
- Create a .bib format file from database
- Abbreviate function available when insert and update entry
- "Intelligent" interactive interface based on entry type

The final system will demonstrate a user-friendly environment, which allows copy editors to browse texts, checking the form and contents of citations and

performing editing functions where necessary. In-text citations and the bibliography can be displayed in various forms with a number of editing commands made available.

BibTex Editor is a program for manipulating BibTeX database files. These files contain all the relevant data. The data is organized into records, in which each record is identified by a unique key or label.

3.2 Function Design

3.2.1 Import Function

As we describe above, the BibTEx Editor program is intended to work like a database program, and one of the focuses is to make the editing of the BibTex file easily, so the first important function should be Import Function.

There are three sub-procedure in the import function, they should be opening a .BIB file; parsing the entry text of .BIB file; storing each field of entry reference into database fields as a record.

3.2.2 Edit Function

In the Edit Function, as we discussed in the part of requirement, the BibTex Editor should have three functions: insert function, update function, and delete function.

(1) insert function

In the insert function, the BibTex Editor should include the following functions:

- Allow copy editor (user) to select the entry type that user like to insert

- The user interface should show the change to user based on the entry type that user just select, and also show which field is required field, which field is optional field to user, for example, the required field with bold font, and the optional field with normal font.
- The abbreviation function should be available when the user doing insert
- The BibTex Editor also should allow to save a new entry reference into database

(2) update function

In the update function, the BibTex Editor should include the following functions:

- Allow copy editor (user) to have a way to search and find the entry reference that user like to update
- The user interface should show the change to user based on the entry type that user just select, and also show which field is required field, which field is optional field to user, for example, the required field with bold font, and the optional field with normal font.
- The abbreviation function should be available when the user doing update
- The BibTex Editor also should allow to save the entry reference that user just update into database

(3) delete function

In the delete function, the BibTex Editor should include the following functions:

- Allow copy editor (user) to have a way to search and find the entry reference that user like to delete

- The user interface should show the change to user based on the entry type that user just select, and also show which field is required field, which field is optional field to user, for example, the required field with bold font, and the optional field with normal font.
- The BibTex Editor should give a warning remind to user, for example, to ask user the question: Do you really like to delete this record? To let the user to make sure what he/she is going to do, and what is going to be affected.
- The BibTex Editor will delete the entry reference from database after the user answer YES.

3.2.3 View Function

The View Function, in fact, is the navigation of record, as we already talked in the part of requirement, the BibTex Editor should have four functions in there: first function, previous function, next function, and last function.

(1) first function

When the user execute the first function, the BibTex Editor will move the point to first record in the database

(2) previous function

When the user execute the previous function, the BibTex Editor will move the point to previous record based on the current record in the database

(3) next function

When the user execute the next function, the BibTex Editor will move the point to next record based on the current record in the database

(4) last function

When the user execute the last function, the BibTex Editor will move the point to last record in the database

3.2.4 Export Function

As we described in the part of requirement, the final result we need still is the format of .BIB file, in other word; we do any edit to the entry reference based on the format of .BIB file. We also want the format of .BIB file, the focus of the BibTex Editor just is to make the editing of the format of .BiB file easily, so to export the entry reference record from database and create a new .BIB file is another important function.

There are three sub-procedure in the export function, they should be reorganization the database record into a .BIB format entry; name a new .BIB file name; storing all the entry into the new .BIB file.

3.2.5 Abbreviate Function

The abbreviation function should be available in the insert function and the update function. For itself, it is a .BIB file too, so it should have most of all the function we talked above, for example, it should have:

- Read a .bib format file and store all the information into database
- Insert, and Delete record any time
- Search based on keyword
- Find based on the entry order (e.g. First, Previous, Next, Last)

3.3 Database Design

The intelligent interactive interface plays an important role in the BibTex Editor system, it will affect directly the database design and user interface design, also affect the implementation of BibTex Editor system.

The database is designed for giving full access to all fields defined by the BibTex specification. All the entry type is included into one single table, which is called "all". Abbreviation function is stored into a separate table, which is called "abbr". The structure of the database is described as following:

- Abbreviation table

Field Name	Description
Abbr	Abbreviation description
mytext	Normal description

- **All** table

Field Name	Description
head	Entry type
c_k	Citation_Key
author	
title	
journal	
year	
volume	
number	
pages	
month	
note	
key	
publisher	
series	
address	

edition howpublished booktitle organization school institution type editor courses chapter	

3.4 User Interface Design

User interface is a very important component of a system, for example, an interface, which is difficult to use, will result in a high frequency of user errors. It will cause the software system to be discarded, irrespective of its functionality. Especially, in this BibTex Editor system, we need an intelligent interactive interface, that is, the user interface must give a different shown face if the entry type is different.

The following principles for user interface design are followed in designing the BibTex Editor:

- Simplicity. Use simple and natural dialog, present exactly the information the user needs in a natural and logical order, remove or hide irrelevant or rarely needed information.
- User Familiarity. Use words and concepts from the users' world, avoid the use of system technical terms, view interactions from the user's perspective, use meaningful icons and abbreviations.
- Consistency. Keep the consistency of effects, input, language and graphics.

- User Guidance. Inform the user about: where they are, where they have been, and where they can go. Inform the user what the system or application is doing, how it is interpreting the user's input.
- Recoverability. Include mechanisms to allow users to recover from their errors.
- Prompting. Deal with errors in a positive and helpful manner, provide meaningful error messages.
- Prevention. Prevent errors, try to make errors impossible, provide reasonable checks on input data.

With these principles in mind when we make the system design and implementation, users will be provided with a simple, friendly, easy to understand, and easy to use interface.

3.5 Development Tools

For implementation of the BibTex Editor, we choose the following tools.

- Visual Basic
- Access
- Windows NT

Chapter 4

Implementation of BibTex Editor

4.1 Introduction

There are three main components in the BibTex Editor System, the first is import and export component, as we know, the program of BibTex Editor is try to make .BIB file easy to edit, the input is a .BIB file and the output also must be a .BIB file. The database is just like a helper to make it happen, so we need import component to read .BIB file into database and export component to write database record back to .BIB file. The second is intelligent user interface component, this program can process different entry type, and each entry reference has different fields, so we need an intelligent user interface to handle the difference between the entry types. The third is how to arrange the Module and Abbreviation function, for abbreviation function, we can import .BIB file that contain abbreviation info into database, do some edit operation, and make it available when user doing insert and update entry reference,

Those three components are more important than other, we will give a little more detail how to implement at follow section.

4.2 Import and Export

In the implementation of import and export component, there are some steps we have to take:

- Analysis the format of the .BIB file. Each entry reference is separated by symbol "@". Follow "@" is entry type. Each field separated by "=", the front of "=" is field name, and follow "=" is content of the field.
- Merge each line into a single string.
- Separate the string into variable.
- Store the variable value to field.

4.3 Intelligent User interface

For implementing the intelligent interactive interface, we have a few things need to think about:

- Database design. This is the reason why we just setup a single table "All" to put all the fields. If we want the BibTex Editor to show different interface based on the different entry type, that will be very hard to handle if we use more than one form in VB.
- Consistency. For user easy to use.
- Other principle of user interface design

4.4 Module and Abbreviation

For this part, let us talk about module in VB project first, we only put intelligent interface function code in module to make interface change easily. The implementation of abbreviation function we put in two place, one is on the BibTex Editor main window, which controls abbreviation .BIB file itself, user could do import, insert, delete, search. Another place is when user insert a new entry

reference or update an existing entry reference, which saves abbr item to publisher field or howpublisher field.

Chapter 5

Usage of BibTex Editor

5.1 Introduction

BibTex Editor is a very easy to use program of bibliographic software for Windows. BibTex Editor combines Importing .BIB file, reference management, and bibliography making into a single intelligent user-friendly environment.

All features can be applied using the Menus. Frequently used commands are additionally offered in the Button Bar.

On the BibTex Editor main window, we have File, Edit, View, Help four window menu, is showed as figure1.

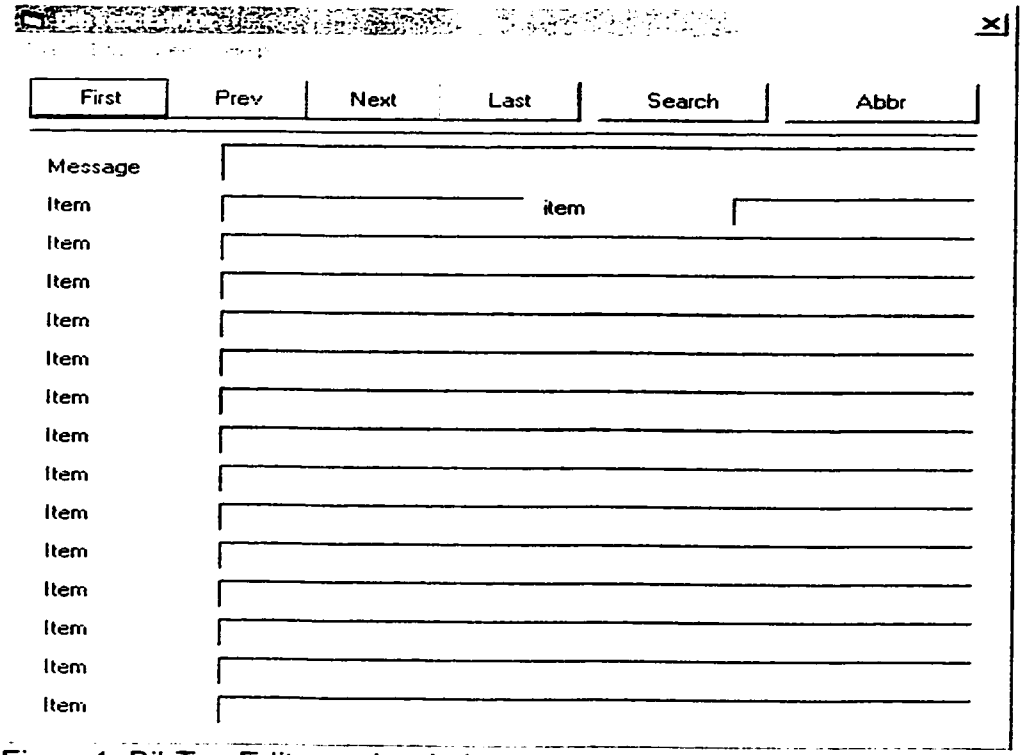

Figure1. BibTex Editor main window

5.2 Window Menu

5.2.1 File

Under this menu File, we set up three functions: Import, Export, and Exit.

Import

To import a BibTex file into database, click menu item **File | Import** a File I/O dialog will be shown for you, you will see three Button Bars on the window, they are Open, Export, and Cancel. Click on Open Button Bar, a Open dialog will by shown for you to choose the drive and path to select the file with extension *.bib. then you click Open Button Bar to wait the BibTex Editor processing.

Export

To create a new BibTex file from database, click menu item **File | Export** a File I/O dialog will be shown for you, you will see three Button Bars on the window. They are Open, Export, and Cancel, click Button Bar Export, a save as dialog will be shown for you to choose the drive and path to save the BibTex file and to ask you to provide a name for the new BibTex file. A new BibTex file with extension *.bib will then be created in the directory you just specified.

Exit

To close BibTex Editor windows and exit BibTex Editor programs. click menu item **File | Exit.**

The menu File is shown as Figure 2, 3, and 4.

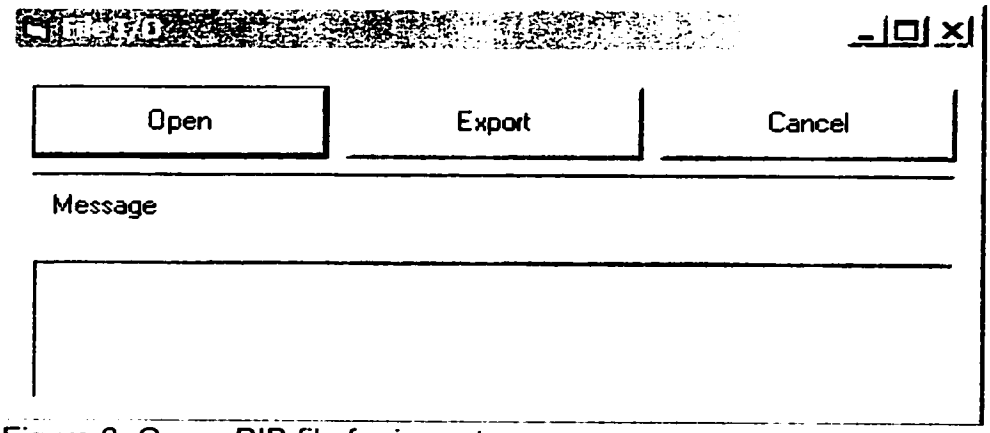

Figure 2. Open .BIB file for import

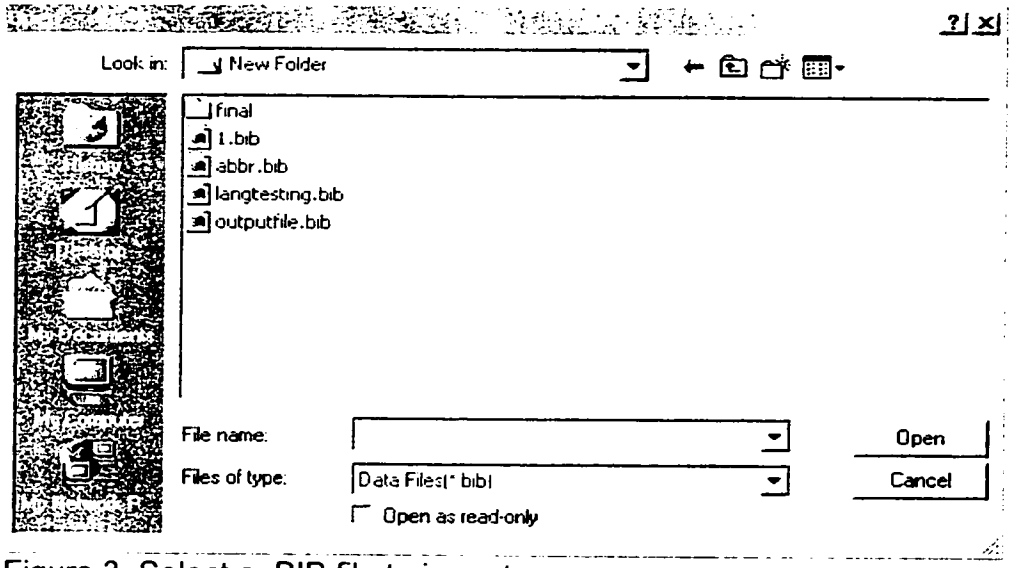

Figure 3. Select a .BIB file to import

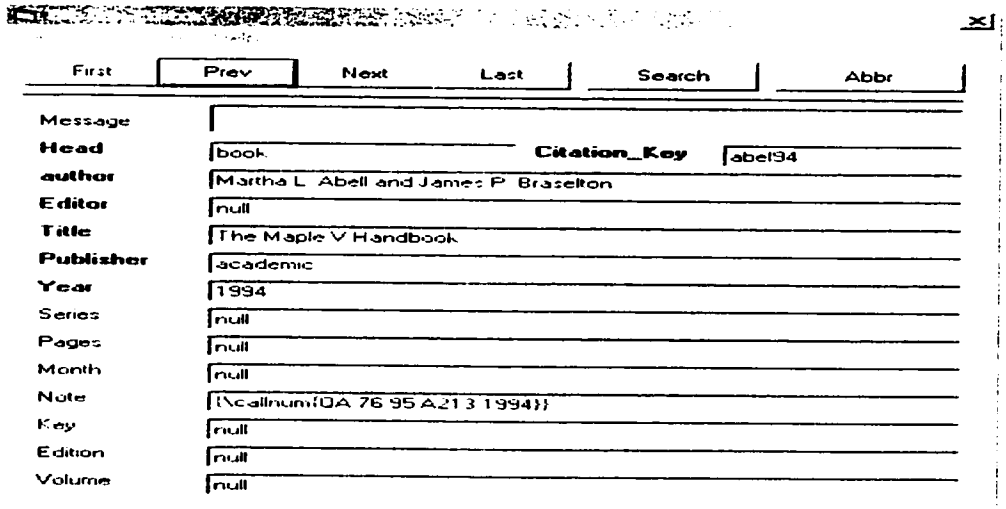

Figure 4. After import success

5.2.2 Edit

Under this menu Edit, we set up three functions: Insert, Update, and Delete.

Insert

To insert a new entry reference. Click menu item **Edit | Insert** a Record Insert window will be shown for you to select entry type, at this time, a Record Insert Button Bar appear on the Upper Left window, click it now. There are three Button Bar appear on the top of the window, they are Record Save, Abbr and Cancel. You can input entry item now, all the item with bold are required fields, then click Record Save Button Bar to store the entry into database as a record. You can use Abbr Button Bar if you need when you insert an entry item.

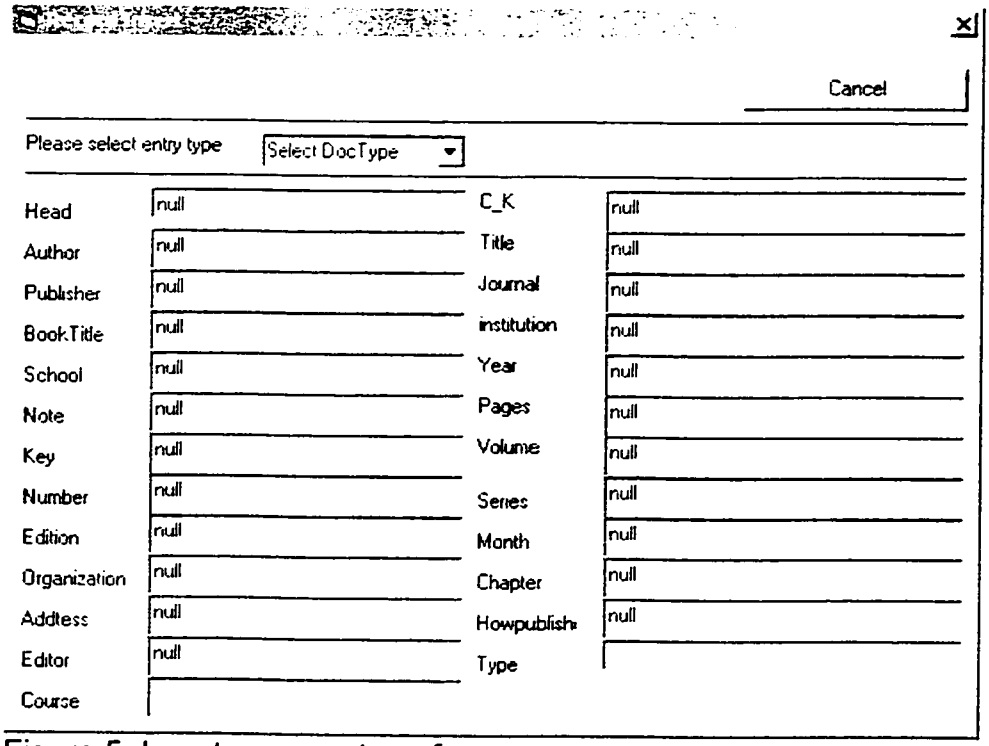

Figure 5. Insert a new entry reference

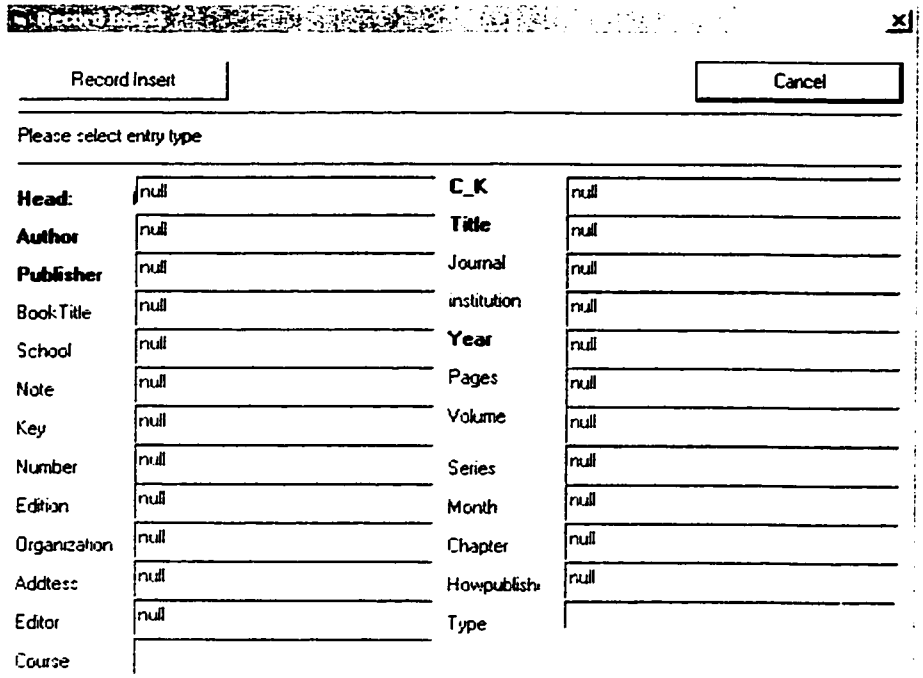

Figure 6. After select entry type

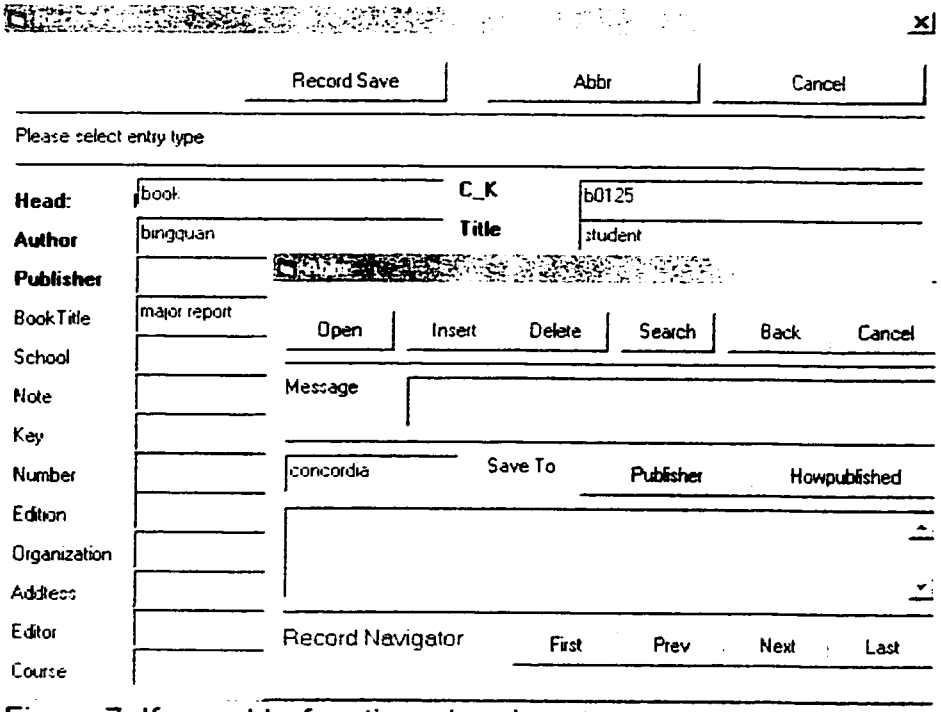

Figure 7. If use abbr function when insert

Update

To update a existing entry reference, click Search Button Bar on the BibTex Editor Main window to find the entry reference you like to update, then click menu item **Edit | Update** a Record Update window will show you the entry you just find, you click Update Button Bar after you doing whatever you want to update, also Abbr. Function is available for the moment.

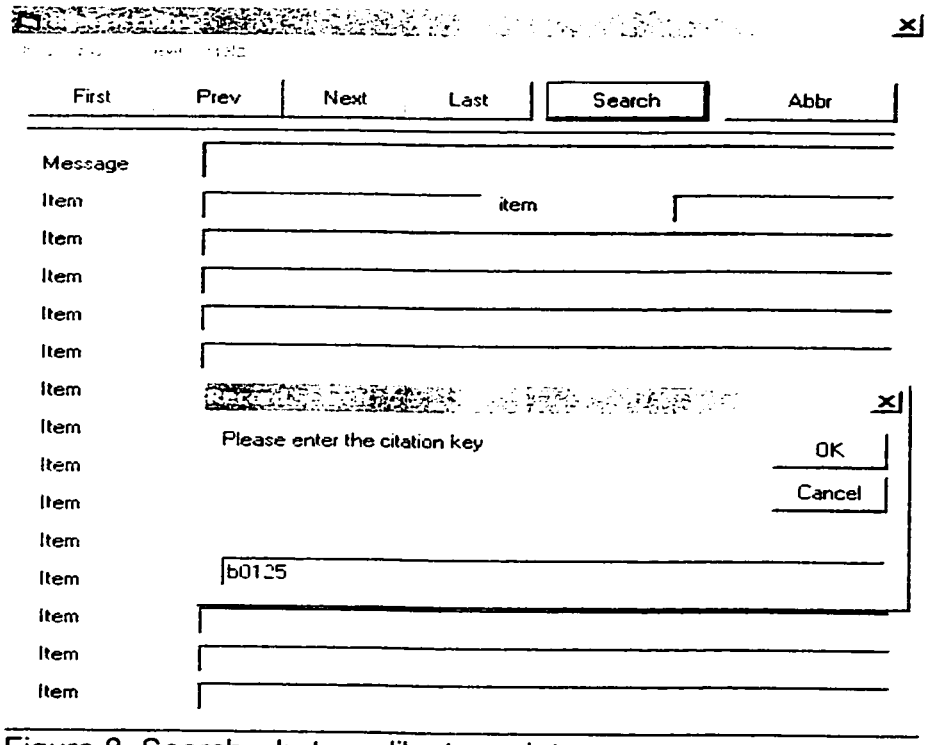

Figure 8. Search what you like to update

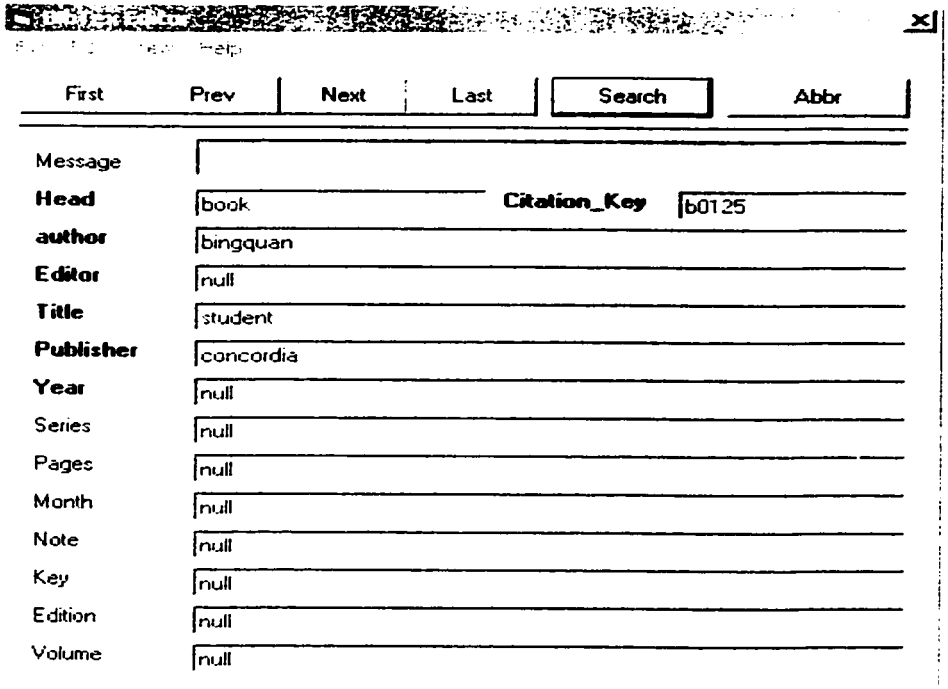

Figure 9. Record you like to update

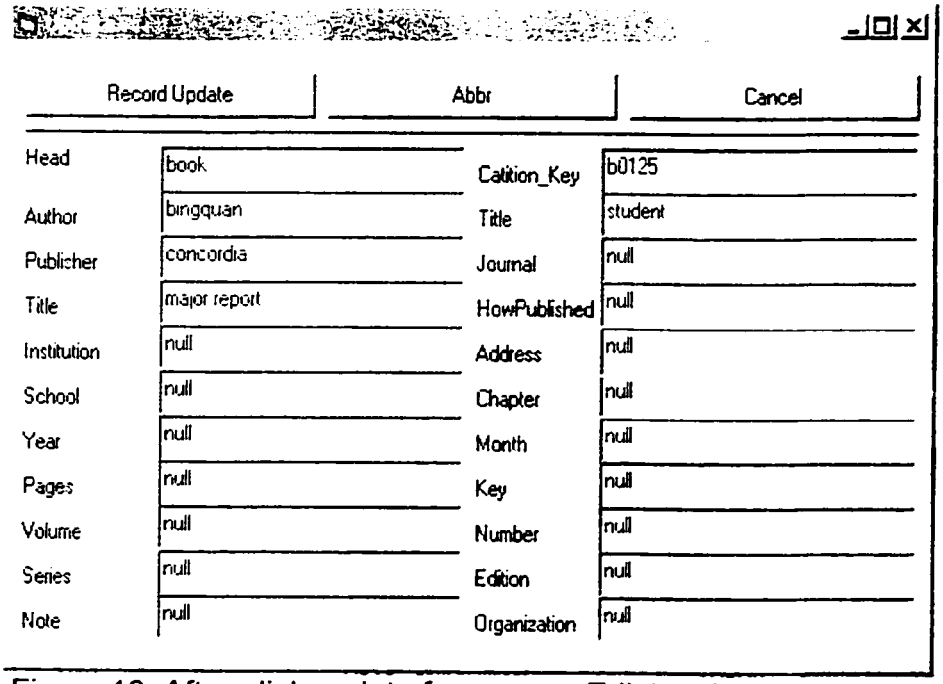

Figure 10. After click update from menu Edit | update

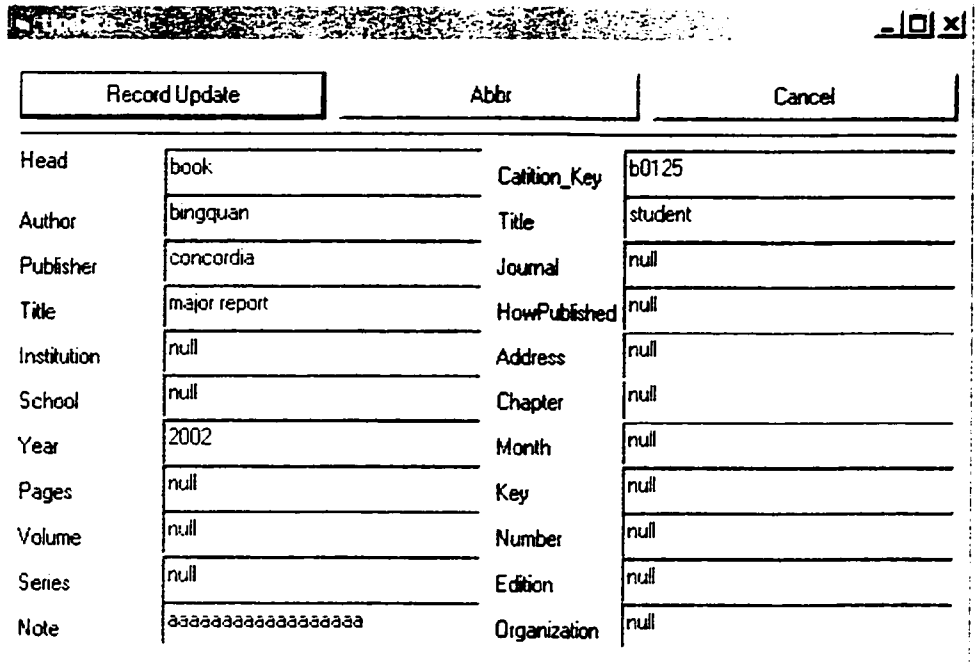

Figure 11. Doing Update on field **Year** and **Note**

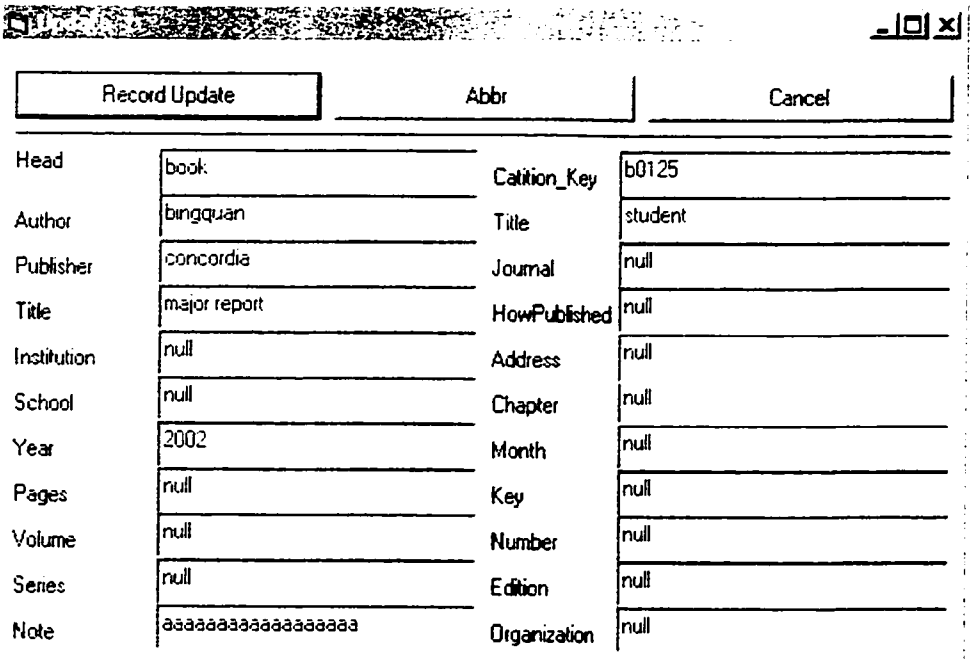

Figure 11. After Update on field **Year** and **Note**

Delete

To delete a existing entry reference, click Search Button Bar on the BibTex Editor Main window to find the entry reference you like to delete, then click menu item **Edit | Delete** a Record Delete window will be appear, ask you to make sure: Do you really want to delete this record? If you say YES now, the BibTex Editor will delete the record for you. If you say NO, the BibTex Editor will cancel whatever you do before.

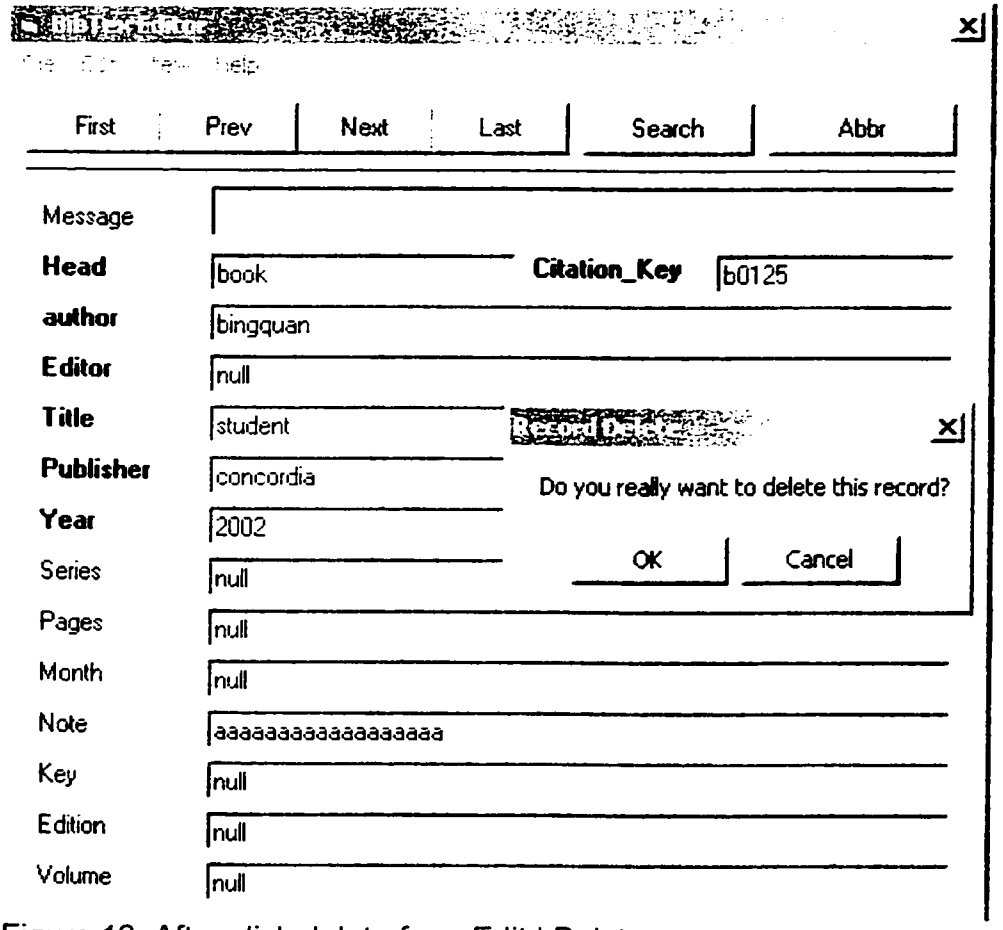

Figure 12. After click delete from Edit | Delete

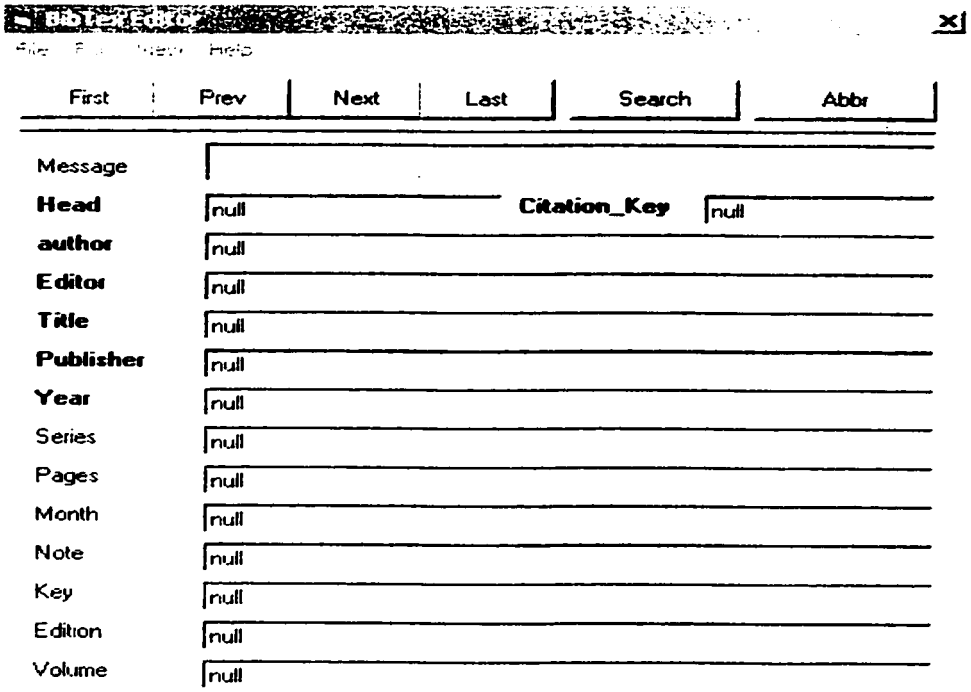

Figure 13. After delete

5.2.3 View

Under this menu View, we set up four functions for you, and also we have shortcuts for those function on the BibTex Editor main window for you easy to navigate record and see what the info is, they are First, Prev, Next, Last.

First

To navigate the record to the first entry reference, click menu item **View | First** or First Button Bar on the BibTex Editor main window

Prev

To navigate the record to the first entry reference, click menu item **View | Prev** or Prev Button Bar on the BibTex Editor main window

Next

To navigate the record to the first entry reference, click menu item **View | Next** or Next Button Bar on the BibTex Editor main window

Last

To navigate the record to the first entry reference, click menu item **View | Last** or Last Button Bar on the BibTex Editor main window

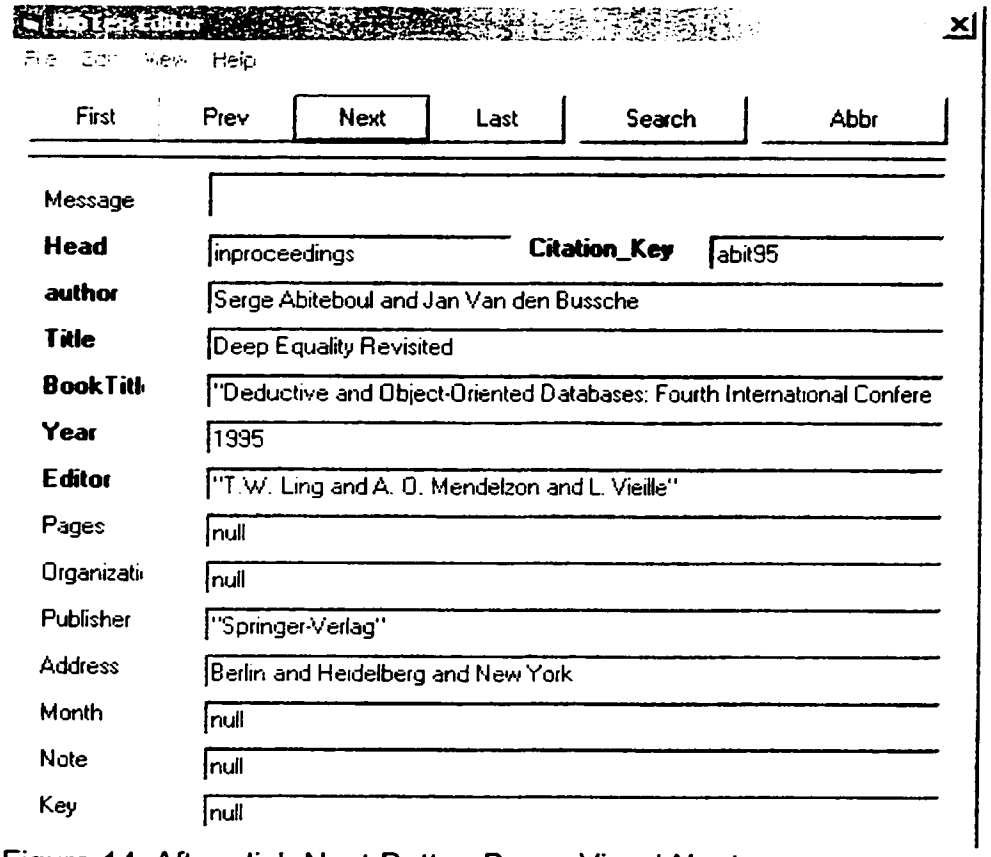

Figure 14. After click Next Button Bar or View | Next

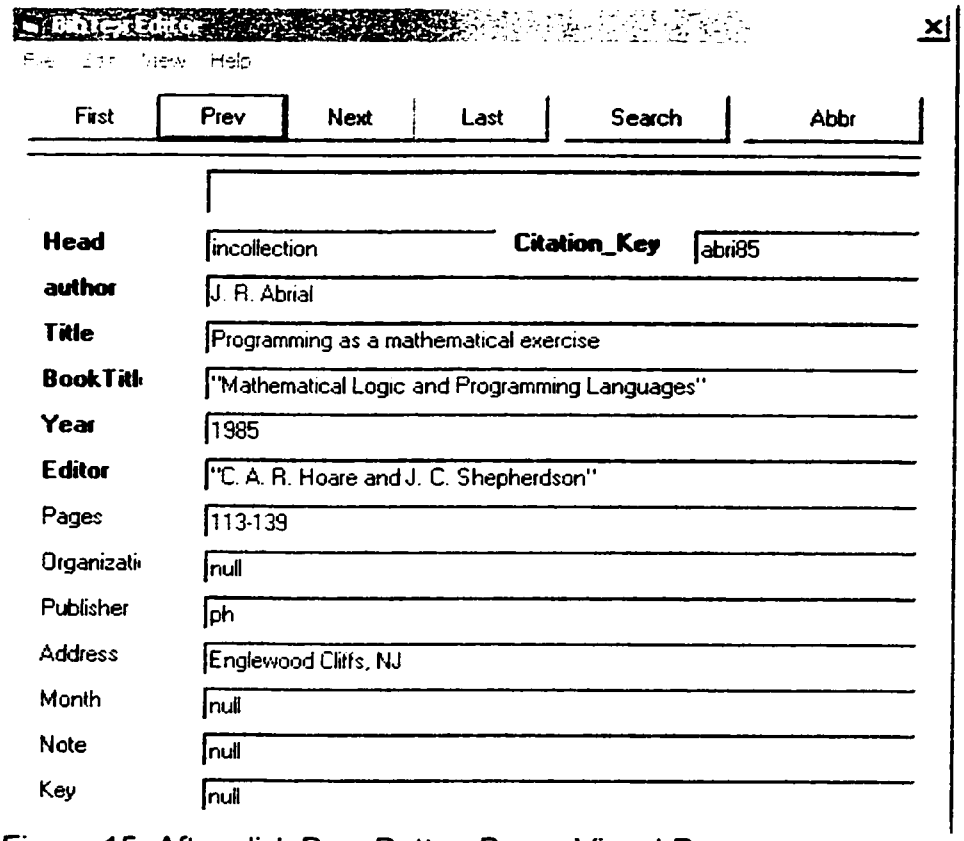

Figure 15. After click Prev Button Bar or View | Prev

5.2.4 Abbreviation

The Abbreviation function is available when you doing Insert a new entry reference or when you doing update an existing entry reference. There are two position concerning about the Abbreviation function: one is on the BibTex Editor main window, here is like Abbreviation function editor, when you click Abbr. Button Bar on the BibTex Editor main window, a Abbr window will be appear, and there are four main functions on it: Open, Insert, Delete, Search. Open is same as Import function we talk before; Insert, Delete, Search have also same feature like we talk before, we omit here. But just show you some windows here.

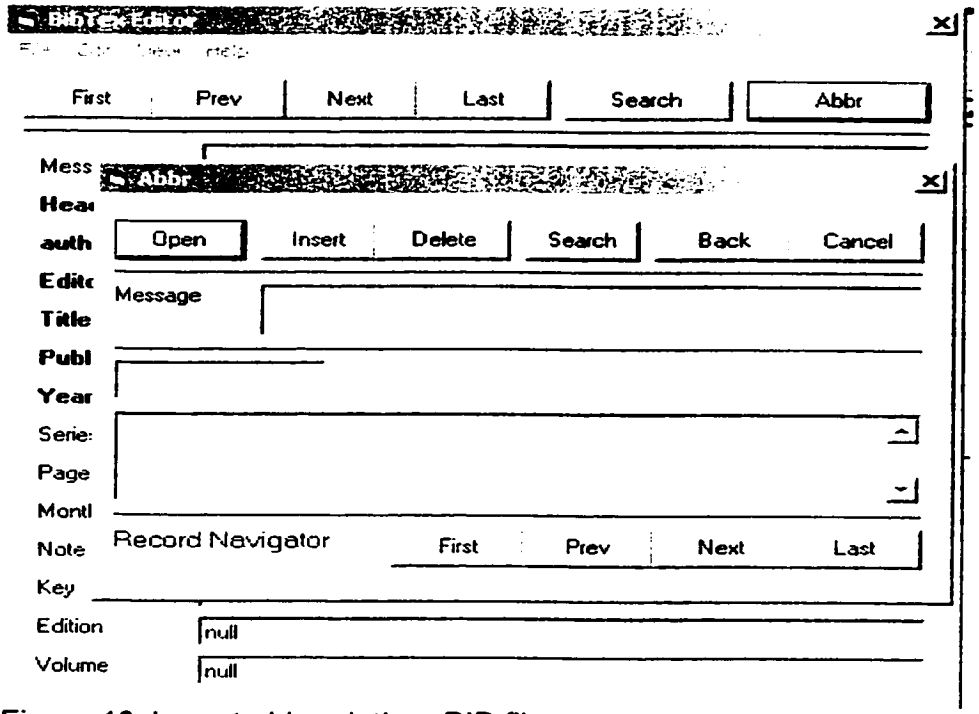

Figure 16. Import abbreviation .BIB file

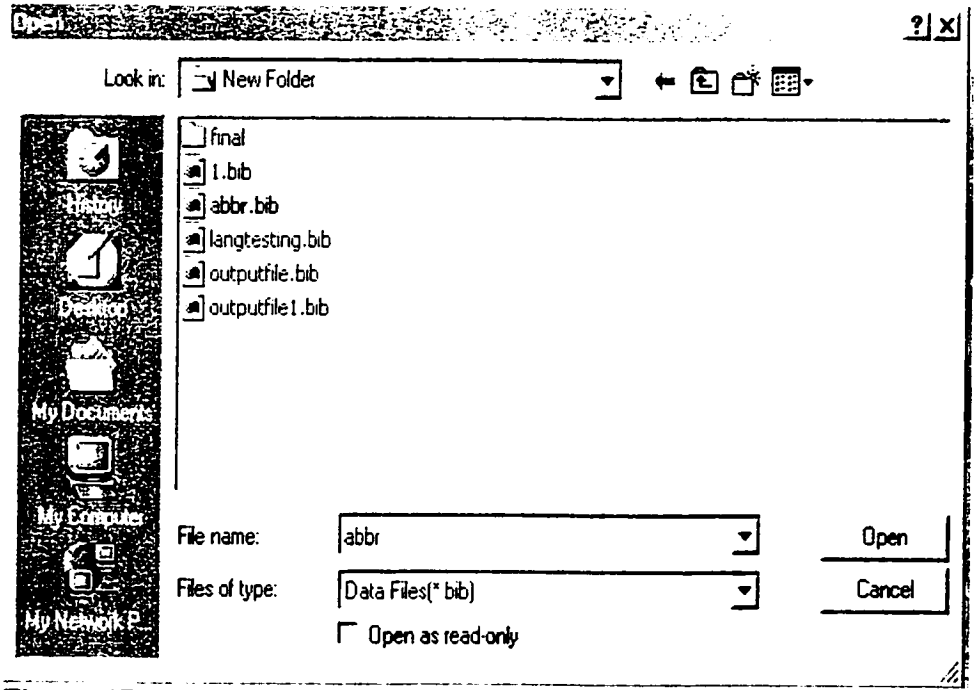

Figure 17. Select .BIB file

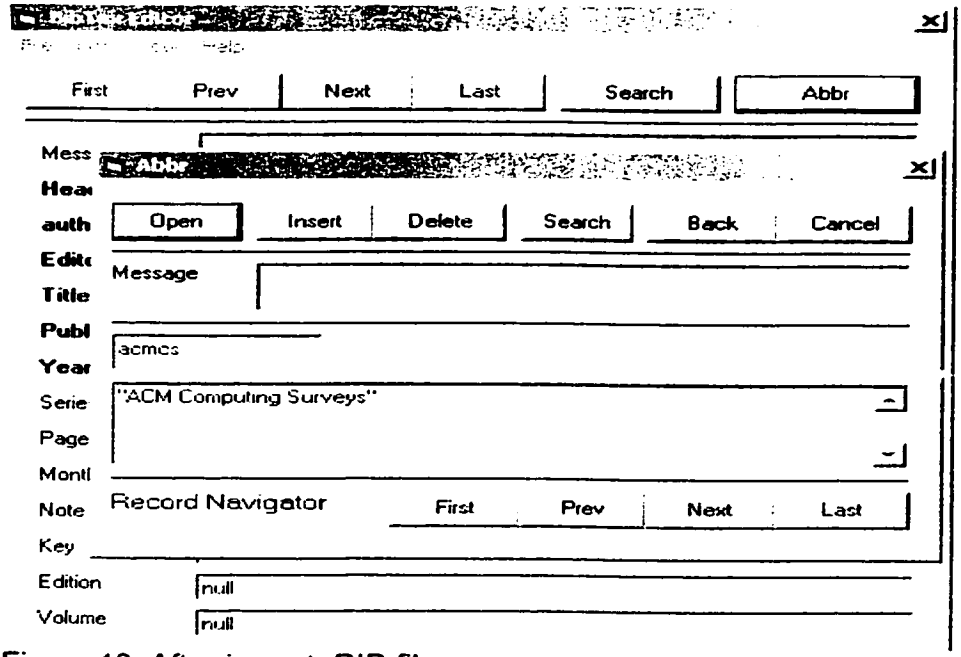

Figure 18. After import .BIB file

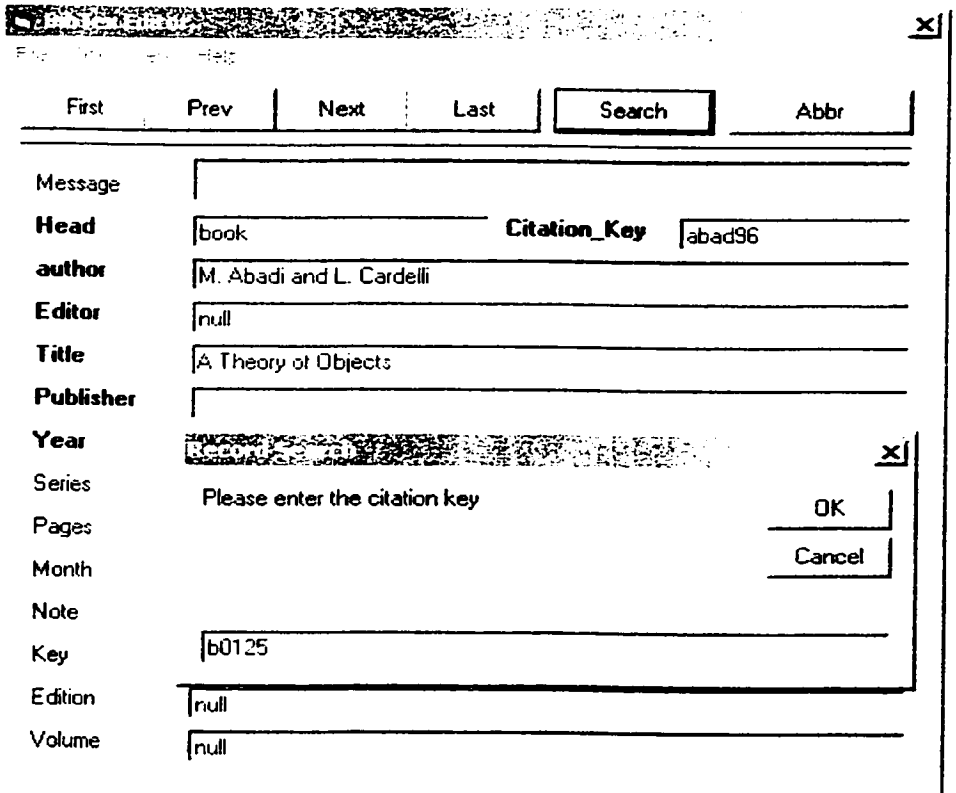

Figure 19. Search a record that not in the database

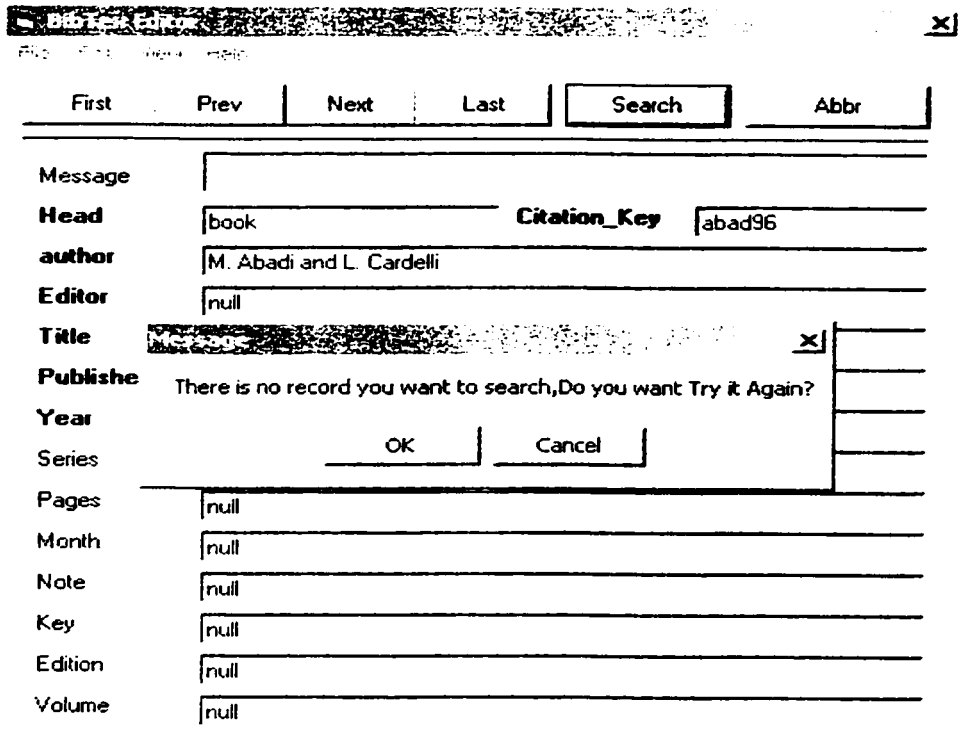

Figure 20. Search a record that not in the database

Chapter 6

Discussion and Further Work

In doing this project – BibTex Editor, the fundamental problem was to import the BibTex file into Database and implementation of "Intelligent" interactive interface based on entry type. I spent a lot of time for those two things. For example, I have to study the format of .BIB file carefully, thinking about how the "intelligent" interactive interface should work based on the entry type, and how the abbr. Function available when you insert a new entry item or update a existing entry item.

From this point, the BibTex Editor does not have many features, and just some basic Functions, such as, reading a .BIB file and store all the information into database. Editing the entry items in the database easily based on window user friendly interface; creating a new .BIB file from database was completed. But I think some features, as follows, could do in the future.

Motivation 1

Researchers usually write their papers at multiple sites like home, office or other places. If they don't use the same machine (like a notebook) at different sites, it is desirable to have the .BIB data be in one place. Otherwise there would be a problem of synchronization. Web server is such a place to place the bib data.

Motivation 2

In a research group, usually different people have different bib data, so it is desirable that they can share and recommend references in one specific research field.

Solution

For motivation 1

Using ASP (Application Service Provider) idea, the .BIB data will be stored in a unify database and accessed via a web interface. For the sake of security of group use, the web page will require password to access. Expected Functions:

- Offer user GUI to manage (edit / insert / delete / sort / search) BibTex data Stored in the remote observer
- Provide two modes of viewing the BibTex data: overview and detail
- Generate and output BibTex format data from the remote database
- Store BibTex format data provided by users into remote database server

For motivation 2

In addition to the BibTex fields (e.g., author, title, ...), we could add several fields related to research group:

- The creator of the BibTex entry
- The evaluation (peer-review) of the entry from other people in the group
- The local download URL of the paper
- The URL of author's homepage
- The URL of the citation of the paper

Chapter 7

Conclusion

The main aim of BibTex Editor is designed to manage Scientific Literature, and to process BibTex format file easily. The implementation of the BibTex Editor shows that the BibTex Editor is a very easy to use program, it has a single intelligent user-friendly environment.

The database is designed for giving full access to all fields defined by the BibTex specification. All the entry types are included into a single table, which is called "all"; all the string about Abbreviation is stored into a separated table, which is called "abbr".

In one word, the BibTex Editor is useful for BibTex file copy editor, making all the work the copy editor need to do easily. But we still have some work need to do in the future to improve the program like we discuss in the Chapter 6.

- Read a .bib format file and store all the information into database
- Insert new entry, Update and Delete existing entry any time
- Search based on keyword
- Find based on the entry order (e.g. First, Previous, Next, Last)
- Create a .bib format file from database
- Abbreviate function available when insert and update entry
- "Intelligent" interactive interface based on entry type

The final system will demonstrate a user-friendly environment, which allows copy editors to browse texts, checking the form and contents of citations and performing editing functions where necessary. In-text citations and the bibliography can be displayed in various forms with a number of editing commands made available.

BibTex Editor is a program for manipulating BibTeX database files. These files contain all the relevant data. The data is organized into records, in which each record is identified by a unique key or label.

Chapter 8

Appendix: Some Example Source Code
(The source code below is key functions in the system.)

1. Function Intelligent Interface

```
Sub Intelligent_Interface()
        If Form1.Data1.Recordset.BOF Or Form1.Data1.Recordset.EOF Then
                Exit Sub
        ElseIf Form1.Data1.Recordset("head") = "article" Then
                Form1.Label1.Visible = True
                Form1.Label1.Font.Bold = True
                Form1.Text1.Visible = True
                Form1.Label1.Caption = "Head"
                Form1.Text1.Text = Form1.Data1.Recordset("head")
                Form1.Label2.Visible = True
                Form1.Label2.Font.Bold = True
                Form1.Text2.Visible = True
                Form1.Label2.Caption = "Citation_Key"
                Form1.Text2.Text = Form1.Data1.Recordset("c_k")
                Form1.Label3.Visible = True
                Form1.Label3.Font.Bold = True
                Form1.Text3.Visible = True
                Form1.Label3.Caption = "author"
                Form1.Text3.Text = Form1.Data1.Recordset("Author")
                Form1.Label4.Visible = True
                Form1.Label4.Font.Bold = True
                Form1.Text14.Visible = True
                Form1.Label4.Caption = "title"
                Form1.Text4.Text = Form1.Data1.Recordset("Title")
                Form1.Label5.Font.Bold = True
                Form1.Label5.Visible = True
                Form1.Text5.Visible = True
                Form1.Label5.Caption = "Journal"
                Form1.Text5.Text = Form1.Data1.Recordset("journal")
                Form1.Label6.Font.Bold = True
                Form1.Label6.Visible = True
                Form1.Text6.Visible = True
                Form1.Label6.Caption = "Year"
                Form1.Text6.Text = Form1.Data1.Recordset("year")
                Form1.Label7.Visible = True
                Form1.Label7.Font.Bold = False
                Form1.Text7.Visible = True
                Form1.Label7.Caption = "Volume "
                Form1.Text7.Text = Form1.Data1.Recordset("volume")
                Form1.Label8.Visible = True
                Form1.Text8.Visible = True
                Form1.Label8.Caption = "Number"
                Form1.Text8.Text = Form1.Data1.Recordset("number")
                Form1.Label9.Visible = True
                Form1.Text9.Visible = True
```

```
        Form1.Label9.Caption = "Pages"
        Form1.Text9.Text = Form1.Data1.Recordset("pages")
        Form1.Label10.Visible = True
        Form1.Text10.Visible = True
        Form1.Label10.Caption = "Month"
        Form1.Text10.Text = Form1.Data1.Recordset("month")
        Form1.Label11.Visible = True
        Form1.Text11.Visible = True
        Form1.Label1.Caption = "Note"
        Form1.Text11.Text = Form1.Data1.Recordset("note")
        Form1.Label12.Visible = True
        Form1.Text12.Visible = True
        Form1.Label12.Caption = "Key"
        Form1.Text12.Text = Form1.Data1.Recordset("key")
        Form1.Label13.Visible = False
        Form1.Text13.Visible = False
        Form1.Label14.Visible = False
        Form1.Text14.Visible = False
        Form1.Label17.Visible = False
        Form1.Text15.Visible = False
ElseIf Form1.Data1.Recordset("head") = "book" Then
        Form1.Label1.Visible = True
        Form1.Label1.Font.Bold = True
        Form1.Text1.Visible = True
        Form1.Label1.Caption = "Head"
        Form1.Text1.Text = Form1.Data1.Recordset("head")
        Form1.Label2.Visible = True
        Form1.Label2.Font.Bold = True
        Form1.Text2.Visible = True
        Form1.Label2.Caption = "Citation_Key"
        Form1.Text2.Text = Form1.Data1.Recordset("c_k")
        Form1.Label3.Font.Bold = True
        Form1.Label3.Visible = True
        Form1.Text3.Visible = True
        Form1.Label3.Caption = "author"
        Form1.Text3.Text = Form1.Data1.Recordset("Author")
        Form1.Label4.Visible = True
        Form1.Label4.Font.Bold = True
        Form1.Text14.Visible = True
        Form1.Label4.Caption = "Editor"
        Form1.Text4.Text = Form1.Data1.Recordset("editor")
        Form1.Label5.Font.Bold = True
        Form1.Label5.Visible = True
        Form1.Text5.Visible = True
        Form1.Label5.Caption = "Title"
        Form1.Text5.Text = Form1.Data1.Recordset("title")
        Form1.Label6.Visible = True
        Form1.Label6.Font.Bold = True
        Form1.Text6.Visible = True
        Form1.Label6.Caption = "Publisher"
        Form1.Text6.Text = Form1.Data1.Recordset("publisher")
        Form1.Label7.Visible = True
        Form1.Label7.Font.Bold = True
        Form1.Text7.Visible = True
        Form1.Label7.Caption = "Year "
        Form1.Text7.Text = Form1.Data1.Recordset("year")
```

```
        Form1.Label8.Visible = True
        Form1.Text8.Visible = True
        Form1.Label8.Caption = "Series"
        Form1.Text8.Text = Form1.Data1.Recordset("series")
        Form1.Label9.Visible = True
        Form1.Text9.Visible = True
        Form1.Label9.Caption = "Pages"
        Form1.Text9.Text = Form1.Data1.Recordset("pages")
        Form1.Label10.Visible = True
        Form1.Text10.Visible = True
        Form1.Label10.Caption = "Month"
        Form1.Text10.Text = Form1.Data1.Recordset("month")
        Form1.Label11.Visible = True
        Form1.Text11.Visible = True
        Form1.Label11.Caption = "Note"
        Form1.Text11.Text = Form1.Data1.Recordset("note")
        Form1.Label12.Visible = True
        Form1.Text12.Visible = True
        Form1.Label12.Caption = "Key"
        Form1.Text12.Text = Form1.Data1.Recordset("key")
        Form1.Label13.Visible = True
        Form1.Text13.Visible = True
        Form1.Label13.Caption = "Edition"
        Form1.Text13.Text = Form1.Data1.Recordset("edition")
        Form1.Label14.Visible = True
        Form1.Text14.Visible = True
        Form1.Label14.Caption = "Volume"
        Form1.Text14.Text = Form1.Data1.Recordset("volume")
        Form1.Label17.Visible = False
        Form1.Text15.Visible = False
Elself Form1.Data1.Recordset("head") = "booklet" Then
        Form1.Label1.Visible = True
        Form1.Label1.Font.Bold = True
        Form1.Text1.Visible = True
        Form1.Label1.Caption = "Head"
        Form1.Text1.Text = Form1.Data1.Recordset("head")

        Form1.Label2.Visible = True
        Form1.Label2.Font.Bold = True
        Form1.Text2.Visible = True
        Form1.Label2.Caption = "Citation_Key"
        Form1.Text2.Text = Form1.Data1.Recordset("c_k")
        Form1.Label3.Visible = True
        Form1.Label3.Font.Bold = True
        Form1.Text3.Visible = True
        Form1.Label3.Caption = "Title"
        Form1.Text3.Text = Form1.Data1.Recordset("title")
        Form1.Label4.Visible = True
        Form1.Label4.Font.Bold = False
        Form1.Text14.Visible = True
        Form1.Label4.Caption = "Author"
        Form1.Text4.Text = Form1.Data1.Recordset("author")
        Form1.Label5.Font.Bold = False
        Form1.Label5.Visible = True
        Form1.Text5.Visible = True
        Form1.Label5.Caption = "Howpublished"
```

```
        Form1.Text5.Text = Form1.Data1.Recordset("howpublished")
        Form1.Label6.Font.Bold = False
        Form1.Label6.Visible = True
        Form1.Text6.Visible = True
        Form1.Label6.Caption = "Address"
        Form1.Text6.Text = Form1.Data1.Recordset("address")
        Form1.Label7.Visible = True
        Form1.Label7.Font.Bold = False
        Form1.Text7.Visible = True
        Form1.Label7.Caption = "Month "
        Form1.Text7.Text = Form1.Data1.Recordset("month")
        Form1.Label8.Visible = True
        Form1.Text8.Visible = True
        Form1.Label8.Caption = "Year"
        Form1.Text8.Text = Form1.Data1.Recordset("year")
        Form1.Label9.Visible = True
        Form1.Text9.Visible = True
        Form1.Label9.Caption = "Note"
        Form1.Text9.Text = Form1.Data1.Recordset("note")
        Form1.Label10.Visible = True
        Form1.Text10.Visible = True
        Form1.Label10.Caption = "Key"
        Form1.Text10.Text = Form1.Data1.Recordset("key")
        Form1.Label11.Visible = False
        Form1.Text11.Visible = False
        Form1.Label12.Visible = False
        Form1.Text12.Visible = False
        Form1.Label13.Visible = False
        Form1.Text13.Visible = False
        Form1.Label14.Visible = False
        Form1.Text14.Visible = False
        Form1.Label17.Visible = False
        Form1.Text15.Visible = False
ElseIf Form1.Data1.Recordset("head") = "conference" Then
        Form1.Label1.Visible = True
        Form1.Label1.Font.Bold = True
        Form1.Text1.Visible = True
        Form1.Label1.Caption = "Head"
        Form1.Text1.Text = Form1.Data1.Recordset("head")
        Form1.Label2.Visible = True
        Form1.Label2.Font.Bold = True
        Form1.Text2.Visible = True
        Form1.Label2.Caption = "Citation_Key"
        Form1.Text2.Text = Form1.Data1.Recordset("c_k")
        Form1.Label3.Font.Bold = True
        Form1.Label3.Visible = True
        Form1.Text3.Visible = True
        Form1.Label3.Caption = "author"
        Form1.Text3.Text = Form1.Data1.Recordset("Author")
        Form1.Label4.Visible = True
        Form1.Label4.Font.Bold = True
        Form1.Text14.Visible = True
        Form1.Label4.Caption = "Title"
        Form1.Text4.Text = Form1.Data1.Recordset("title")
        Form1.Label5.Font.Bold = True
        Form1.Label5.Visible = True
```

```
            Form1.Text5.Visible = True
            Form1.Label5.Caption = "BookTitle"
            Form1.Text5.Text = Form1.Data1.Recordset("booktitle")
            Form1.Label6.Visible = True
            Form1.Label6.Font.Bold = True
            Form1.Text6.Visible = True
            Form1.Label6.Caption = "Year"
            Form1.Text6.Text = Form1.Data1.Recordset("year")
            Form1.Label7.Visible = True
            Form1.Label7.Font.Bold = True
            Form1.Text7.Visible = True
            Form1.Label7.Caption = "Editor"
            Form1.Text7.Text = Form1.Data1.Recordset("editor")
            Form1.Label8.Visible = True
            Form1.Text8.Visible = True
            Form1.Label8.Caption = "Pages"
            Form1.Text8.Text = Form1.Data1.Recordset("pages")
            Form1.Label9.Visible = True
            Form1.Text9.Visible = True
            Form1.Label9.Caption = "Organization"
            Form1.Text9.Text = Form1.Data1.Recordset("organization")
            Form1.Label10.Visible = True
            Form1.Text10.Visible = True
            Form1.Label10.Caption = "Publisher"
            Form1.Text10.Text = Form1.Data1.Recordset("publisher")
            Form1.Label11.Visible = True
            Form1.Text11.Visible = True
            Form1.Label11.Caption = "Address"
            Form1.Text11.Text = Form1.Data1.Recordset("address")
            Form1.Label12.Visible = True
            Form1.Text12.Visible = True
            Form1.Label12.Caption = "Month"
            Form1.Text12.Text = Form1.Data1.Recordset("month")
            Form1.Label13.Visible = True
            Form1.Text13.Visible = True
            Form1.Label13.Caption = "Note"
            Form1.Text13.Text = Form1.Data1.Recordset("note")
            Form1.Label14.Visible = True
            Form1.Text14.Visible = True
            Form1.Label14.Caption = "Key"
            Form1.Text14.Text = Form1.Data1.Recordset("key")
            Form1.Label17.Visible = False
            Form1.Text15.Visible = False
ElseIf Form1.Data1.Recordset("head") = "inbook" Then
            Form1.Label1.Visible = True
            Form1.Label1.Font.Bold = True
            Form1.Text1.Visible = True
            Form1.Label1.Caption = "Head"
            Form1.Text1.Text = Form1.Data1.Recordset("head")
            Form1.Label2.Visible = True
            Form1.Label2.Font.Bold = True
            Form1.Text2.Visible = True
            Form1.Label2.Caption = "Citation_Key"
            Form1.Text2.Text = Form1.Data1.Recordset("c_k")
            Form1.Label3.Visible = True
            Form1.Label3.Font.Bold = True
```

```
        Form1.Text3.Visible = True
        Form1.Label3.Caption = "author"
        Form1.Text3.Text = Form1.Data1.Recordset("Author")
        Form1.Label4.Visible = True
        Form1.Label4.Font.Bold = True
        Form1.Text14.Visible = True
        Form1.Label4.Caption = "Title"
        Form1.Text4.Text = Form1.Data1.Recordset("Title")
        Form1.Label5.Font.Bold = True
        Form1.Label5.Visible = True
        Form1.Text5.Visible = True
        Form1.Label5.Caption = "Chapter"
        Form1.Text5.Text = Form1.Data1.Recordset("chapter")
        Form1.Label6.Font.Bold = True
        Form1.Label6.Visible = True
        Form1.Text6.Visible = True
        Form1.Label6.Caption = "Publisher"
        Form1.Text6.Text = Form1.Data1.Recordset("publisher")
        Form1.Label7.Visible = True
        Form1.Label7.Font.Bold = True
        Form1.Text7.Visible = True
        Form1.Label7.Caption = "Year"
        Form1.Text7.Text = Form1.Data1.Recordset("year")
        Form1.Label8.Visible = True
        Form1.Text8.Visible = True
        Form1.Label8.Caption = "volume"
        Form1.Text8.Text = Form1.Data1.Recordset("volume")
        Form1.Label9.Visible = True
        Form1.Text9.Visible = True
        Form1.Label9.Caption = "Pages"
        Form1.Text9.Text = Form1.Data1.Recordset("pages")
        Form1.Label10.Visible = True
        Form1.Text10.Visible = True
        Form1.Label10.Caption = "Month"
        Form1.Text10.Text = Form1.Data1.Recordset("month")
        Form1.Label11.Visible = True
        Form1.Text11.Visible = True
        Form1.Label1.Caption = "Note"
        Form1.Text11.Text = Form1.Data1.Recordset("note")
        Form1.Label12.Visible = True
        Form1.Text12.Visible = True
        Form1.Label12.Caption = "Key"
        Form1.Text12.Text = Form1.Data1.Recordset("key")
        Form1.Label13.Visible = True
        Form1.Text13.Visible = True
        Form1.Label13.Caption = "Series"
        Form1.Text13.Text = Form1.Data1.Recordset("series")
        Form1.Label14.Visible = True
        Form1.Text14.Visible = True
        Form1.Label14.Caption = "Edition"
        Form1.Text14.Text = Form1.Data1.Recordset("edition")
        Form1.Label17.Visible = True
        Form1.Text15.Visible = True
        Form1.Label17.Caption = "Address"
        Form1.Text15.Text = Form1.Data1.Recordset("address")
ElseIf Form1.Data1.Recordset("head") = "incollection" Then
```

```
Form1.Label1.Visible = True
Form1.Label1.Font.Bold = True
Form1.Text1.Visible = True
Form1.Label1.Caption = "Head"
Form1.Text1.Text = Form1.Data1.Recordset("head")
Form1.Label2.Visible = True
Form1.Label2.Font.Bold = True
Form1.Text2.Visible = True
Form1.Label2.Caption = "Citation_Key"
Form1.Text2.Text = Form1.Data1.Recordset("c_k")
Form1.Label3.Font.Bold = True
Form1.Label3.Visible = True
Form1.Text3.Visible = True
Form1.Label3.Caption = "author"
Form1.Text3.Text = Form1.Data1.Recordset("Author")
Form1.Label4.Visible = True
Form1.Label4.Font.Bold = True
Form1.Text14.Visible = True
Form1.Label4.Caption = "Title"
Form1.Text4.Text = Form1.Data1.Recordset("title")
Form1.Label5.Font.Bold = True
Form1.Label5.Visible = True
Form1.Text5.Visible = True
Form1.Label5.Caption = "BookTitle"
Form1.Text5.Text = Form1.Data1.Recordset("booktitle")
Form1.Label6.Visible = True
Form1.Label6.Font.Bold = True
Form1.Text6.Visible = True
Form1.Label6.Caption = "Year"
Form1.Text6.Text = Form1.Data1.Recordset("year")
Form1.Label7.Visible = True
Form1.Label7.Font.Bold = True
Form1.Text7.Visible = True
Form1.Label7.Caption = "Editor"
Form1.Text7.Text = Form1.Data1.Recordset("editor")
Form1.Label8.Visible = True
Form1.Text8.Visible = True
Form1.Label8.Caption = "Pages"
Form1.Text8.Text = Form1.Data1.Recordset("pages")
Form1.Label9.Visible = True
Form1.Text9.Visible = True
Form1.Label9.Caption = "Organization"
Form1.Text9.Text = Form1.Data1.Recordset("organization")
Form1.Label10.Visible = True
Form1.Text10.Visible = True
Form1.Label10.Caption = "Publisher"
Form1.Text10.Text = Form1.Data1.Recordset("publisher")
Form1.Label11.Visible = True
Form1.Text11.Visible = True
Form1.Label11.Caption = "Address"
Form1.Text11.Text = Form1.Data1.Recordset("address")
Form1.Label12.Visible = True
Form1.Text12.Visible = True
Form1.Label12.Caption = "Month"
Form1.Text12.Text = Form1.Data1.Recordset("month")
Form1.Label13.Visible = True
```

```
        Form1.Text13.Visible = True
        Form1.Label13.Caption = "Note"
        Form1.Text13.Text = Form1.Data1.Recordset("note")
        Form1.Label14.Visible = True
        Form1.Text14.Visible = True
        Form1.Label14.Caption = "Key"
        Form1.Text14.Text = Form1.Data1.Recordset("key")
        Form1.Label15.Visible = False
        Form1.Text15.Visible = False
ElseIf Form1.Data1.Recordset("head") = "inproceedings" Then
        Form1.Label1.Visible = True
        Form1.Label1.Font.Bold = True
        Form1.Text1.Visible = True
        Form1.Label1.Caption = "Head"
        Form1.Text1.Text = Form1.Data1.Recordset("head")
        Form1.Label2.Visible = True
        Form1.Label2.Font.Bold = True
        Form1.Text2.Visible = True
        Form1.Label2.Caption = "Citation_Key"
        Form1.Text2.Text = Form1.Data1.Recordset("c_k")
        Form1.Label3.Font.Bold = True
        Form1.Label3.Visible = True
        Form1.Text3.Visible = True
        Form1.Label3.Caption = "author"
        Form1.Text3.Text = Form1.Data1.Recordset("Author")
        Form1.Label4.Visible = True
        Form1.Label4.Font.Bold = True
        Form1.Text14.Visible = True
        Form1.Label4.Caption = "Title"
        Form1.Text4.Text = Form1.Data1.Recordset("title")
        Form1.Label5.Font.Bold = True
        Form1.Label5.Visible = True
        Form1.Text5.Visible = True
        Form1.Label5.Caption = "BookTitle"
        Form1.Text5.Text = Form1.Data1.Recordset("booktitle")
        Form1.Label6.Visible = True
        Form1.Label6.Font.Bold = True
        Form1.Text6.Visible = True
        Form1.Label6.Caption = "Year"
        Form1.Text6.Text = Form1.Data1.Recordset("year")
        Form1.Label7.Visible = True
        Form1.Label7.Font.Bold = True
        Form1.Text7.Visible = True
        Form1.Label7.Caption = "Editor"
        Form1.Text7.Text = Form1.Data1.Recordset("editor")
        Form1.Label8.Visible = True
        Form1.Text8.Visible = True
        Form1.Label8.Caption = "Pages"
        Form1.Text8.Text = Form1.Data1.Recordset("pages")
        Form1.Label9.Visible = True
        Form1.Text9.Visible = True
        Form1.Label9.Caption = "Organization"
        Form1.Text9.Text = Form1.Data1.Recordset("organization")
        Form1.Label10.Visible = True
        Form1.Text10.Visible = True
        Form1.Label10.Caption = "Publisher"
```

```
        Form1.Text10.Text = Form1.Data1.Recordset("publisher")
        Form1.Label11.Visible = True
        Form1.Text11.Visible = True
        Form1.Label11.Caption = "Address"
        Form1.Text11.Text = Form1.Data1.Recordset("address")
        Form1.Label12.Visible = True
        Form1.Text12.Visible = True
        Form1.Label12.Caption = "Month"
        Form1.Text12.Text = Form1.Data1.Recordset("month")
        Form1.Label13.Visible = True
        Form1.Text13.Visible = True
        Form1.Label13.Caption = "Note"
        Form1.Text13.Text = Form1.Data1.Recordset("note")
        Form1.Label14.Visible = True
        Form1.Text14.Visible = True
        Form1.Label14.Caption = "Key"
        Form1.Text14.Text = Form1.Data1.Recordset("key")
        Form1.Label17.Visible = False
        Form1.Text15.Visible = False
ElseIf Form1.Data1.Recordset("head") = "manual" Then
        Form1.Label1.Visible = True
        Form1.Label1.Font.Bold = True
        Form1.Text1.Visible = True
        Form1.Label1.Caption = "Head"
        Form1.Text1.Text = Form1.Data1.Recordset("head")
        Form1.Label2.Visible = True
        Form1.Label2.Font.Bold = True
        Form1.Text2.Visible = True
        Form1.Label2.Caption = "Citation_Key"
        Form1.Text2.Text = Form1.Data1.Recordset("c_k")
        Form1.Label3.Font.Bold = True
        Form1.Label3.Visible = True
        Form1.Text3.Visible = True
        Form1.Label3.Caption = "Title"
        Form1.Text3.Text = Form1.Data1.Recordset("title")
        Form1.Label4.Visible = True
        Form1.Label4.Font.Bold = False
        Form1.Text14.Visible = True
        Form1.Label4.Caption = "Author"
        Form1.Text4.Text = Form1.Data1.Recordset("author")
        Form1.Label5.Font.Bold = False
        Form1.Label5.Visible = True
        Form1.Text5.Visible = True
        Form1.Label5.Caption = "organization"
        Form1.Text5.Text = Form1.Data1.Recordset("organization")
        Form1.Label6.Visible = True
        Form1.Label6.Font.Bold = False
        Form1.Text6.Visible = True
        Form1.Label6.Caption = "Address"
        Form1.Text6.Text = Form1.Data1.Recordset("Address")
        Form1.Label7.Visible = True
        Form1.Label7.Font.Bold = False
        Form1.Text7.Visible = True
        Form1.Label7.Caption = "Edition"
        Form1.Text7.Text = Form1.Data1.Recordset("edition")
        Form1.Label8.Visible = True
```

```
        Form1.Text8.Visible = True
        Form1.Label8.Caption = "Month"
        Form1.Text8.Text = Form1.Data1.Recordset("month")
        Form1.Label9.Visible = True
        Form1.Text9.Visible = True
        Form1.Label9.Caption = "Year"
        Form1.Text9.Text = Form1.Data1.Recordset("year")
        Form1.Label10.Visible = True
        Form1.Text10.Visible = True
        Form1.Label10.Caption = "Note"
        Form1.Text10.Text = Form1.Data1.Recordset("note")
        Form1.Label11.Visible = True
        Form1.Text11.Visible = True
        Form1.Label11.Caption = "Key"
        Form1.Text11.Text = Form1.Data1.Recordset("key")
        Form1.Label12.Visible = False
        Form1.Text12.Visible = False
        Form1.Label13.Visible = False
        Form1.Text13.Visible = False
        Form1.Label14.Visible = False
        Form1.Text14.Visible = False
        Form1.Label17.Visible = False
        Form1.Text15.Visible = False
ElseIf Form1.Data1.Recordset("head") = "misc" Then
        Form1.Label1.Visible = True
        Form1.Label1.Font.Bold = True
        Form1.Text1.Visible = True
        Form1.Label1.Caption = "Head"
        Form1.Text1.Text = Form1.Data1.Recordset("head")
        Form1.Label2.Visible = True
        Form1.Label2.Font.Bold = True
        Form1.Text2.Visible = True
        Form1.Label2.Caption = "Citation_Key"
        Form1.Text2.Text = Form1.Data1.Recordset("c_k")
        Form1.Label3.Font.Bold = False
        Form1.Label3.Visible = True
        Form1.Text3.Visible = True
        Form1.Label3.Caption = "author"
        Form1.Text3.Text = Form1.Data1.Recordset("Author")
        Form1.Label4.Visible = True
        Form1.Label4.Font.Bold = False
        Form1.Text14.Visible = True
        Form1.Label4.Caption = "Title"
        Form1.Text4.Text = Form1.Data1.Recordset("title")
        Form1.Label5.Font.Bold = False
        Form1.Label5.Visible = True
        Form1.Text5.Visible = True
        Form1.Label5.Caption = "Howpublished"
        Form1.Text5.Text = Form1.Data1.Recordset("howpublished")
        Form1.Label6.Visible = True
        Form1.Label6.Font.Bold = False
        Form1.Text6.Visible = True
        Form1.Label6.Caption = "Year"
        Form1.Text6.Text = Form1.Data1.Recordset("year")
        Form1.Label7.Visible = True
        Form1.Label7.Font.Bold = False
```

```
        Form1.Text7.Visible = True
        Form1.Label7.Caption = "Month"
        Form1.Text7.Text = Form1.Data1.Recordset("Month")
        Form1.Label8.Visible = True
        Form1.Text8.Visible = True
        Form1.Label8.Caption = "Note"
        Form1.Text8.Text = Form1.Data1.Recordset("Note")
        Form1.Label9.Visible = True
        Form1.Text9.Visible = True
        Form1.Label9.Caption = "Key"
        Form1.Text9.Text = Form1.Data1.Recordset("key")
        Form1.Label10.Visible = False
        Form1.Text10.Visible = False
        Form1.Label11.Visible = False
        Form1.Text11.Visible = False
        Form1.Label12.Visible = False
        Form1.Text12.Visible = False
        Form1.Label13.Visible = False
        Form1.Text13.Visible = False
        Form1.Label14.Visible = False
        Form1.Text14.Visible = False
        Form1.Label17.Visible = False
        Form1.Text15.Visible = False
ElseIf Form1.Data1.Recordset("head") = "phdthesis" Then
        Form1.Label1.Visible = True
        Form1.Label1.Font.Bold = True
        Form1.Text1.Visible = True
        Form1.Label1.Caption = "Head"
        Form1.Text1.Text = Form1.Data1.Recordset("head")
        Form1.Label2.Visible = True
        Form1.Label2.Font.Bold = True
        Form1.Text2.Visible = True
        Form1.Label2.Caption = "Citation_Key"
        Form1.Text2.Text = Form1.Data1.Recordset("c_k")
        Form1.Label3.Font.Bold = True
        Form1.Label3.Visible = True
        Form1.Text3.Visible = True
        Form1.Label3.Caption = "author"
        Form1.Text3.Text = Form1.Data1.Recordset("Author")
        Form1.Label4.Visible = True
        Form1.Label4.Font.Bold = True
        Form1.Text14.Visible = True
        Form1.Label4.Caption = "Title"
        Form1.Text4.Text = Form1.Data1.Recordset("title")
        Form1.Label5.Font.Bold = True
        Form1.Label5.Visible = True
        Form1.Text5.Visible = True
        Form1.Label5.Caption = "school"
        Form1.Text5.Text = Form1.Data1.Recordset("school")
        Form1.Label6.Visible = True
        Form1.Label6.Font.Bold = True
        Form1.Text6.Visible = True
        Form1.Label6.Caption = "Year"
        Form1.Text6.Text = Form1.Data1.Recordset("year")
        Form1.Label7.Visible = True
        Form1.Label7.Font.Bold = False
```

```
        Form1.Text7.Visible = True
        Form1.Label7.Caption = "Address"
        Form1.Text7.Text = Form1.Data1.Recordset("address")
        Form1.Label8.Visible = True
        Form1.Text8.Visible = True
        Form1.Label8.Caption = "Month"
        Form1.Text8.Text = Form1.Data1.Recordset("month")
        Form1.Label9.Visible = True
        Form1.Text9.Visible = True
        Form1.Label9.Caption = "Note"
        Form1.Text9.Text = Form1.Data1.Recordset("note")
        Form1.Label10.Visible = False
        Form1.Text10.Visible = False
        Form1.Label11.Visible = False
        Form1.Text11.Visible = False
        Form1.Label12.Visible = False
        Form1.Text12.Visible = False
        Form1.Label13.Visible = False
        Form1.Text13.Visible = False
        Form1.Label14.Visible = False
        Form1.Text14.Visible = False
        Form1.Label17.Visible = False
        Form1.Text15.Visible = False
ElseIf Form1.Data1.Recordset("head") = "masterthesis" Then
        Form1.Label1.Visible = True
        Form1.Label1.Font.Bold = True
        Form1.Text1.Visible = True
        Form1.Label1.Caption = "Head"
        Form1.Text1.Text = Form1.Data1.Recordset("head")
        Form1.Label2.Visible = True
        Form1.Label2.Font.Bold = True
        Form1.Text2.Visible = True
        Form1.Label2.Caption = "Citation_Key"
        Form1.Text2.Text = Form1.Data1.Recordset("c_k")
        Form1.Label3.Font.Bold = True
        Form1.Label3.Visible = True
        Form1.Text3.Visible = True
        Form1.Label3.Caption = "author"
        Form1.Text3.Text = Form1.Data1.Recordset("Author")
        Form1.Label4.Visible = True
        Form1.Label4.Font.Bold = True
        Form1.Text14.Visible = True
        Form1.Label4.Caption = "Title"
        Form1.Text4.Text = Form1.Data1.Recordset("title")
        Form1.Label5.Font.Bold = True
        Form1.Label5.Visible = True
        Form1.Text5.Visible = True
        Form1.Label5.Caption = "school"
        Form1.Text5.Text = Form1.Data1.Recordset("school")
        Form1.Label6.Visible = True
        Form1.Label6.Font.Bold = True
        Form1.Text6.Visible = True
        Form1.Label6.Caption = "Year"
        Form1.Text6.Text = Form1.Data1.Recordset("year")
        Form1.Label7.Visible = True
        Form1.Label7.Font.Bold = False
```

```
        Form1.Text7.Visible = True
        Form1.Label7.Caption = "Address"
        Form1.Text7.Text = Form1.Data1.Recordset("address")
        Form1.Label8.Visible = True
        Form1.Text8.Visible = True
        Form1.Label8.Caption = "Month"
        Form1.Text8.Text = Form1.Data1.Recordset("month")
        Form1.Label9.Visible = True
        Form1.Text9.Visible = True
        Form1.Label9.Caption = "Note"
        Form1.Text9.Text = Form1.Data1.Recordset("note")
        Form1.Label10.Visible = False
        Form1.Text10.Visible = False
        Form1.Label11.Visible = False
        Form1.Text11.Visible = False
        Form1.Label12.Visible = False
        Form1.Text12.Visible = False
        Form1.Label13.Visible = False
        Form1.Text13.Visible = False
        Form1.Label14.Visible = False
        Form1.Text14.Visible = False
        Form1.Label17.Visible = False
        Form1.Text15.Visible = False
ElseIf Form1.Data1.Recordset("head") = "proceedings" Then
        Form1.Label1.Visible = True
        Form1.Label1.Font.Bold = True
        Form1.Text1.Visible = True
        Form1.Label1.Caption = "Head"
        Form1.Text1.Text = Form1.Data1.Recordset("head")

        Form1.Label2.Visible = True
        Form1.Label2.Font.Bold = True
        Form1.Text2.Visible = True
        Form1.Label2.Caption = "Citation_Key"
        Form1.Text2.Text = Form1.Data1.Recordset("c_k")
        Form1.Label3.Font.Bold = True
        Form1.Label3.Visible = True
        Form1.Text3.Visible = True
        Form1.Label3.Caption = "Title"
        Form1.Text3.Text = Form1.Data1.Recordset("title")
        Form1.Label4.Visible = True
        Form1.Label4.Font.Bold = True
        Form1.Text14.Visible = True
        Form1.Label4.Caption = "Year"
        Form1.Text4.Text = Form1.Data1.Recordset("Year")
        Form1.Label5.Font.Bold = False
        Form1.Label5.Visible = True
        Form1.Text5.Visible = True
        Form1.Label5.Caption = "editor"
        Form1.Text5.Text = Form1.Data1.Recordset("editor")
        Form1.Label6.Visible = True
        Form1.Label6.Font.Bold = False
        Form1.Text6.Visible = True
        Form1.Label6.Caption = "Publisher"
        Form1.Text6.Text = Form1.Data1.Recordset("publisher")
        Form1.Label7.Visible = True
```

```
        Form1.Label7.Font.Bold = False
        Form1.Text7.Visible = True
        Form1.Label7.Caption = "Address"
        Form1.Text7.Text = Form1.Data1.Recordset("address")
        Form1.Label8.Visible = True
        Form1.Text8.Visible = True
        Form1.Label8.Caption = "Month"
        Form1.Text8.Text = Form1.Data1.Recordset("month")
        Form1.Label9.Visible = True
        Form1.Text9.Visible = True
        Form1.Label9.Caption = "Note"
        Form1.Text9.Text = Form1.Data1.Recordset("note")
        Form1.Label10.Visible = True
        Form1.Text10.Visible = True
        Form1.Label10.Caption = "organization"
        Form1.Text10.Text = Form1.Data1.Recordset("organization")
        Form1.Label11.Visible = False
        Form1.Text11.Visible = False

        Form1.Label12.Visible = False
        Form1.Text12.Visible = False
        Form1.Label13.Visible = False
        Form1.Text13.Visible = False
        Form1.Label14.Visible = False
        Form1.Text14.Visible = False
        Form1.Label17.Visible = False
        Form1.Text15.Visible = False
ElseIf Form1.Data1.Recordset("head") = "techreport" Then
        Form1.Label1.Visible = True
        Form1.Label1.Font.Bold = True
        Form1.Text1.Visible = True
        Form1.Label1.Caption = "Head"
        Form1.Text1.Text = Form1.Data1.Recordset("head")
        Form1.Label2.Visible = True
        Form1.Label2.Font.Bold = True
        Form1.Text2.Visible = True
        Form1.Label2.Caption = "Citation_Key"
        Form1.Text2.Text = Form1.Data1.Recordset("c_k")
        Form1.Label3.Font.Bold = True
        Form1.Label3.Visible = True
        Form1.Text3.Visible = True
        Form1.Label3.Caption = "author"
        Form1.Text3.Text = Form1.Data1.Recordset("Author")
        Form1.Label4.Visible = True
        Form1.Label4.Font.Bold = True
        Form1.Text14.Visible = True
        Form1.Label4.Caption = "Title"
        Form1.Text4.Text = Form1.Data1.Recordset("title")
        Form1.Label5.Font.Bold = True
        Form1.Label5.Visible = True
        Form1.Text5.Visible = True
        Form1.Label5.Caption = "Institution"
        Form1.Text5.Text = Form1.Data1.Recordset("institution")
        Form1.Label6.Visible = True
        Form1.Label6.Font.Bold = True
        Form1.Text6.Visible = True
```

```
        Form1.Label6.Caption = "Year"
        Form1.Text6.Text = Form1.Data1.Recordset("year")
        Form1.Label7.Visible = True
        Form1.Label7.Font.Bold = False
        Form1.Text7.Visible = True
        Form1.Label7.Caption = "Type"
        Form1.Text7.Text = Form1.Data1.Recordset("type")
        Form1.Label8.Visible = True
        Form1.Text8.Visible = True
        Form1.Label8.Caption = "number"
        Form1.Text8.Text = Form1.Data1.Recordset("number")
        Form1.Label9.Visible = True
        Form1.Text9.Visible = True
        Form1.Label9.Caption = "Address"
        Form1.Text9.Text = Form1.Data1.Recordset("address")
        Form1.Label10.Visible = True
        Form1.Text10.Visible = True
        Form1.Label10.Caption = "Month"
        Form1.Text10.Text = Form1.Data1.Recordset("month")
        Form1.Label11.Visible = True
        Form1.Text11.Visible = True
        Form1.Label11.Caption = "Note"
        Form1.Text11.Text = Form1.Data1.Recordset("note")
        Form1.Label12.Visible = True
        Form1.Text12.Visible = True
        Form1.Label12.Caption = "Key"
        Form1.Text12.Text = Form1.Data1.Recordset("key")
        Form1.Label13.Visible = False
        Form1.Text13.Visible = False
        Form1.Label14.Visible = False
        Form1.Text14.Visible = False
        Form1.Label17.Visible = False
        Form1.Text15.Visible = False
ElseIf Form1.Data1.Recordset("head") = "unpublished" Then
        Form1.Label1.Visible = True
        Form1.Label1.Font.Bold = True
        Form1.Text1.Visible = True
        Form1.Label1.Caption = "Head"
        Form1.Text1.Text = Form1.Data1.Recordset("head")
        Form1.Label2.Visible = True
        Form1.Label2.Font.Bold = True
        Form1.Text2.Visible = True
        Form1.Label2.Caption = "Citation_Key"
        Form1.Text2.Text = Form1.Data1.Recordset("c_k")
        Form1.Label3.Font.Bold = True
        Form1.Label3.Visible = True
        Form1.Text3.Visible = True
        Form1.Label3.Caption = "Author"
        Form1.Text3.Text = Form1.Data1.Recordset("author")
        Form1.Label4.Visible = True
        Form1.Label4.Font.Bold = True
        Form1.Text14.Visible = True
        Form1.Label4.Caption = "Title"
        Form1.Text4.Text = Form1.Data1.Recordset("title")
        Form1.Label5.Font.Bold = True
        Form1.Label5.Visible = True
```

```
                Form1.Text5.Visible = True
                Form1.Label5.Caption = "Note"
                Form1.Text5.Text = Form1.Data1.Recordset("note")
                Form1.Label6.Visible = True
                Form1.Label6.Font.Bold = False
                Form1.Text6.Visible = True
                Form1.Label6.Caption = "Month"
                Form1.Text6.Text = Form1.Data1.Recordset("month")
                Form1.Label7.Visible = True
                Form1.Label7.Font.Bold = False
                Form1.Text7.Visible = True
                Form1.Label7.Caption = "Year"
                Form1.Text7.Text = Form1.Data1.Recordset("year")
                Form1.Label8.Visible = True
                Form1.Text8.Visible = True
                Form1.Label8.Caption = "Key"
                Form1.Text8.Text = Form1.Data1.Recordset("key")
                Form1.Label9.Visible = False
                Form1.Text9.Visible = False
                Form1.Label10.Visible = False
                Form1.Text10.Visible = False
                Form1.Label11.Visible = False
                Form1.Text11.Visible = False
                Form1.Label12.Visible = False
                Form1.Text12.Visible = False
                Form1.Label13.Visible = False
                Form1.Text13.Visible = False
                Form1.Label14.Visible = False
                Form1.Text14.Visible = False
                Form1.Label17.Visible = False
                Form1.Text15.Visible = False
        End If
End Sub
```

2. <u>Function Import a .BIB file into database</u>

```
Private Sub Import_Click()  'Parse .BIB File and Store info into DB
        Do Until Data1.Recordset.EOF
                Data1.Recordset.Delete
                Data1.Recordset.MoveNext
        Loop
        '---------Open .BIB File-----------------
        picMessage.Cls
        cdlFile.Filter = "Data Files(*.bib)|*.bib|All File(*.*)|*.*|"
        cdlFile.ShowOpen
        picMessage.Print "Please Wait...."
        On Error GoTo FileError
        Dim start As String
        Dim file As String
        Dim first As Integer
        Dim last As Integer
        Dim signal As String
        CR = Chr(13)
        Open cdlFile.FileName For Input As #1
        '---------Read  and Parse .BIB File-----------------
        Do Until EOF(1)
```

```
        Line Input #1, file
        start = Left(file, 1)
        If start Like "@" Then
                signal = "writedown"
        End If
'-------Merge each line in .BIB File into a String-------
If signal = "writedown" Then
        For I% = 1 To Len(file) 'read file by a line
                letter$ = Mid(file, I%, 1) 'read each letter
                If letter$ = "{" Then 'check if the number of "{" is match
                        b% = b% + 1
                        mystring$ = mystring$ & letter$
                ElseIf letter$ = "}" Then
                        b% = b% - 1
                        mystring$ = mystring$ & letter$
                        If b% = 0 Then          'if "{" and "}" is matched
                                '---Pick up items field from the mystring-----
                                first% = InStr(1, mystring, "{")
                                hea$ = Mid(mystring$, 2, first% - 2)
                                last% = InStr(first - 1, mystring, ",")
                        c_k$ = Mid(mystring$, first% + 1, last% - first% - 1)
                                If InStr(1, mystring$, "author=") Then
                                        first% = InStr(1, mystring$, "author") + 8
                                        last% = InStr(first%, mystring, Chr(34))
                                        aut$ = Mid(mystring, first, last - first)

                                Else
                                aut$ = " null"
                                End If
                                If InStr(1, mystring$, "title=") Then
                                        first% = InStr(1, mystring$, "title") + 7
                                        last% = InStr(first%, mystring$  Chr(34))
                                tit$ = Mid(mystring$, first%, last% - first%)
                                Else
                                        tit$ = "null"
                                End If
                                If InStr(1, mystring$, "institution=") Then
                                first% = InStr(1, mystring$, "institution") + 12
                                        newletter$ = Mid(mystring$, first%, 1)
                                        If newletter$ = Chr(34) Then
                                        For j% = first% + 1 To Len(mystring$)
                                        newletter$ = Mid(mystring$, j%, 1)
                                        If newletter$ = Chr(34) Then
                                                last% = j% + 1
                                        Exit For
                                        End If
                                        Next
                                Else
                                        last% = InStr(first%, mystring$, ",")
                                End If
                           ins$ = Mid(mystring$, first%, last% - first%)
                                Else
                                        ins$ = "null"
                                End If
                                '---------howpublisher------------
                                If InStr(1, mystring$, "howpublisher=") Then
```

```
first% = InStr(1, mystring$, "howpublisheer") + 14
        last% = InStr(first%, mystring$, Chr(34))
        hp$ = Mid(mystring$, first%, last% - first%)
        Else
                hp$ = "null"
        End If
        '---------booktitle-----------
        If InStr(1, mystring$, "booktitle=") Then
        first% = InStr(1, mystring$, "booktitle") + 10
        newletter$ = Mid(mystring$, first%, 1)
                If newletter$ = Chr(34) Then
                For j% = first% + 1 To Len(mystring$)
                newletter$ = Mid(mystring$, j%, 1)
                        If newletter$ = Chr(34) Then
                        last% = j% + 1
                Exit For
                        End If
                Next
                Else
                last% = InStr(first%, mystring$, ",")
                End If
      bt$ = Mid(mystring$, first%, last% - first%)
      Else
                bt$ = "null"
      End If
     '----------------year--------------
     If InStr(1, mystring$, "year=") Then
      first% = InStr(1, mystring$, "year") + 5
      If InStr(first%, mystring$, ",") Then
       last% = InStr(first%, mystring$, ",")
       yea$ = Mid(mystring$, first%, last% - first%)
      ElseIf InStr(first%, mystring$, "}") Then
      last% = InStr(first%, mystring$, "}")
       yea$ = Mid(mystring$, first%, last% - first%)
      End If
     Else
      yea$ = "null"
     End If
     '-----------type--------------
     If InStr(1, mystring$, "type=") Then
         first% = InStr(1, mystring$, "type") + 5
         If InStr(first%, mystring$, ",") Then
           last% = InStr(first%, mystring$, ",")
          typ$ = Mid(mystring$, first%, last% - first%)
         ElseIf InStr(first%, mystring$, "}") Then
           last% = Len(mystring)
          typ$ = Mid(mystring$, first%, last% - first%)
         End If
     Else
         typ$ = "null"
     End If
     '-----------number--------------
     If InStr(1, mystring$, "number=") Then
       first% = InStr(1, mystring$, "number") + 7
       If InStr(first%, mystring$, ",") Then
         last% = InStr(first%, mystring$, ",")
```

```
            num$ = Mid(mystring$, first%, last% - first%)
            ElseIf InStr(first%, mystring$, "}") Then
              Last% = Len(mystring)
            num$ = Mid(mystring$, first%, last% - first%)
            End If
          Else
        num$ = "null"
      End If
        '-----------organization-------------
        If InStr(1, mystring$, "organization=") Then
         first% = InStr(1, mystring$, "organization") + 13
          last% = InStr(first%, mystring$, Chr(34))
          org$ = Mid(mystring$, first%, last% - first%)
        Else
          org$ = "null"
        End If
'----------publisher----------------
        If InStr(1, mystring$, "publisher=") Then
          first% = InStr(1, mystring$, "publisher") + 10
          If InStr(first%, mystring$, ",") Then
            last% = InStr(first%, mystring$, ",")
            pub$ = Mid(mystring$, first%, last% - first%)
          ElseIf InStr(first%, mystring$, "}") Then
           last% = Len(mystring)
           pub$ = Mid(mystring$, first%, last% - first%)
          End If
        Else
          pub$ = "null"
        End If
         '-----------Month-------------
        If InStr(1, mystring$, "month=") Then
          first% = InStr(1, mystring$, "month") + 6
          If InStr(first%, mystring$, ",") Then
          last% = InStr(first%, mystring$, ",")
          mon$ = Mid(mystring$, first%, last% - first%)
          ElseIf InStr(first%, mystring$, "}") Then
          last% = InStr(first%, mystring$, "}")
          mon$ = Mid(mystring$, first%, last% - first%)
          End If
        Else
          mon$ = "null"
        End If
        '-----------note-------------
        If InStr(1, mystring$, "note=") Then
          first% = InStr(1, mystring$, "note") + 6
          last% = InStr(first%, mystring$, Chr(34))
          ote$ = Mid(mystring$, first%, last% - first%)
          Else
          ote$ = "null"
        End If
       '-----------key-------------
        If InStr(1, mystring$, "kw=") Then
          first% = InStr(1, mystring$, "kw") + 4
            last% = InStr(first%, mystring$, Chr(34))
          keyy$ = Mid(mystring$, first%, last% - first%)
          Else
```

```
                keyy$ = "null"
            End If
          '----------journal---------------
            If InStr(1, mystring$, "journal=") Then
              first% = InStr(1, mystring$, "journal") + 8
              newletter$ = Mid(mystring$, first%, 1)
              If newletter$ = Chr(34) Then
                For j% = first% + 1 To Len(mystring$)
                 newletter$ = Mid(mystring$, j%, 1)
            If newletter$ = Chr(34) Then
                 last% = j% + 1
                 Exit For
                 End If
                Next
             Else
                last% = InStr(first%, mystring$, ",")
             End If
             jou$ = Mid(mystring$, first%, last% - first%)
             Else
              jou$ = "null"
             End If
          '----------volume---------------
           If InStr(1, mystring$, "volume=") Then
             first% = InStr(1, mystring$, "volume") + 7
             newletter$ = Mid(mystring$, first%, 1)
             If newletter$ = Chr(34) Then
               For j% = first% + 1 To Len(mystring$)
                newletter$ = Mid(mystring$, j%, 1)
             If newletter$ = Chr(34) Then
                last% = j% + 1
                Exit For
                End If
               Next
             Else
                last% = InStr(first%, mystring$, ",")
             End If
             vol$ = Mid(mystring$, first%, last% - first%)
            Else
             vol$ = "null"
            End If
          '----------pages---------------
           If InStr(1, mystring$, "pages=") Then
            first% = InStr(1, mystring$, "pages") + 7
If InStr(first%, mystring$, Chr(34)) Then
              last% = InStr(first%, mystring$, Chr(34))
            ElseIf InStr(first%, mystring$, "}") Then
             last% = Len(mystring)
            End If
            pag$ = Mid(mystring$, first%, last% - first%)
           Else
            pag$ = "null"
           End If
     '----------course----------
           If InStr(1, mystring$, "courses=") Then
             first% = InStr(1, mystring$, "courses") + 8
             newletter$ = Mid(mystring$, first%, 1)
```

```
    If newletter$ = Chr(34) Then
      For j% = first% + 1 To Len(mystring$)
       newletter$ = Mid(mystring$, j%, 1)
    If newletter$ = Chr(34) Then
       last% = j% + 1
       Exit For
       End If
      Next
   ElseIf InStr(first%, mystring$, ",") Then
     last% = InStr(first%, mystring$, ",")

   ElseIf InStr(first%, mystring$, "}") Then
    last% = Len(mystring)
   End If
   cou$ = Mid(mystring$, first%, last% - first%)
Else
   cou$ = "null"
End If
'---------------address------------
   If InStr(1, mystring$, "address=") Then
   first% = InStr(1, mystring$, "address") + 9
   last% = InStr(first%, mystring$, Chr(34))
   Addr$ = Mid(mystring$, first%, last% - first%)
Else
   Addr$ = "null"
End If
   '------------series----------------
If InStr(1, mystring$, "series=") Then
   first% = InStr(1, mystring$, "series") + 8
   newletter$ = Mid(mystring$, first%, 1)
   If newletter$ = Chr(34) Then
     For j% = first% + 1 To Len(mystring$)
      newletter$ = Mid(mystring$, j%, 1)
      If newletter$ = Chr(34) Then
       last% = j% + 1
       Exit For
       End If
     Next
  Else
      last% = InStr(first%, mystring$, ",")
  End If
  ser$ = Mid(mystring$, first%, last% - first%)
Else
   ser$ = "null"
End If
'------------edition----------------
If InStr(1, mystring$, "edition=") Then
   first% = InStr(1, mystring$, "edition") + 8
   newletter$ = Mid(mystring$, first%, 1)

   If newletter$ = Chr(34) Then
     For j% = first% + 1 To Len(mystring$)
      newletter$ = Mid(mystring$, j%, 1)

      If newletter$ = Chr(34) Then
      last% = j% + 1
```

```
      Exit For
      End If
    Next
  Else
    last% = InStr(first%, mystring$, ",")
  End If
  ed$ = Mid(mystring$, first%, last% - first%)
Else
  ed$ = "null"
End If
'----------chapter---------------
If InStr(1, mystring$, "chapter=") Then
  first% = InStr(1, mystring$, "chapter") + 8
  newletter$ = Mid(mystring$, first%, 1)
  If newletter$ = Chr(34) Then
    For j% = first% + 1 To Len(mystring$)
      newletter$ = Mid(mystring$, j%, 1)
  If newletter$ = Chr(34) Then
      last% = j% + 1
      Exit For
      End If
    Next
  ElseIf InStr(first%, mystring$, "}") Then
    last% = Len(mystring)
  ElseIf InStr(first%, mystring$, ",") Then
    last% = InStr(first%, mystring$, ",")
  End If
  cha$ = Mid(mystring$, first%, last% - first%)
Else
  cha$ = "null"
End If
'----------school---------------
If InStr(1, mystring$, "school=") Then
  first% = InStr(1, mystring$, "school") + 7
  newletter$ = Mid(mystring$, first%, 1)
  If newletter$ = Chr(34) Then
    For j% = first% + 1 To Len(mystring$)
      newletter$ = Mid(mystring$, j%, 1)
  If newletter$ = Chr(34) Then
      last% = j% + 1
      Exit For
      End If
    Next
  Else
    last% = InStr(first%, mystring$, ",")
  End If
  sch$ = Mid(mystring$, first%, last% - first%)
Else
  sch$ = "null"
End If
'----------editor---------------
If InStr(1, mystring$, "editor=") Then
  first% = InStr(1, mystring$, "editor") + 7
  newletter$ = Mid(mystring$, first%, 1)
  If newletter$ = Chr(34) Then
    For j% = first% + 1 To Len(mystring$)
```

```
                                        newletter$ = Mid(mystring$, j%, 1)
                                      If newletter$ = Chr(34) Then
                                        last% = j% + 1
                                        Exit For
                                        End If
                                      Next
                                    Else
                                      last% = InStr(first%, mystring$, ",")
                                    End If
                                    edi$ = Mid(mystring$, first%, last% - first%)
                                  Else
                                    edi$ = "null"
                                    End If
  '-------store into database----------
 Data1.Recordset.AddNew
 Data1.Recordset("head") = hea$
 Data1.Recordset("c_k") = c_k$
 Data1.Recordset("author") = aut$
 Data1.Recordset("title") = tit$
 Data1.Recordset("journal") = jou$
 Data1.Recordset("year") = yea$
 Data1.Recordset("volume") = vol$
 Data1.Recordset("number") = num$
 Data1.Recordset("pages") = pag$
 Data1.Recordset("edition") = ed$
 Data1.Recordset("month") = mon$
 Data1.Recordset("note") = ote$
 Data1.Recordset("courses") = cou$
 Data1.Recordset("publisher") = pub$
 Data1.Recordset("series") = ser$
 Data1.Recordset("address") = Addr$
 Data1.Recordset("key") = keyy$
 Data1.Recordset("howpublished") = hp$
 Data1.Recordset("booktitle") = bt$
 Data1.Recordset("organization") = org$
 Data1.Recordset("chapter") = cha$
 Data1.Recordset("school") = sch$
 Data1.Recordset("institution") = ins$
 Data1.Recordset("type") = typ$
 Data1.Recordset("editor") = edi$
 Data1.Recordset.Update
 Data1.Recordset.MoveLast
 Data1.Refresh
  'Print #14, mystring$  '*****check mystring$*********
 mystring$ = "" 'clean mystring$
 Exit For
 'Print ck$
  End If
  ElseIf (I% = "1" And letter$ = "%") Or (I% = 1 And letter$ = "-") Then
          Exit For
  ElseIf I% = Len(file) Then
          mystring$ = mystring$ & letter$ & " "
  Else
          mystring$ = mystring$ & letter$
End If
  Next
```

```
        End If
Loop
picMessage.Cls
picMessage.Print "logon success"
Form1.Data1.Refresh
Me.Hide
Form1.Show
Exit Sub
FileError:
picMessage.Cls
picMessage.Print "logon fail"
End Sub
```

3. Function Create a new .BIB file

```
Private Sub Export_Click()
        picMessage.Cls
        cdlFile.Filter = "Data Files(*.bib)|*.bib|All File(*.*)|*.*|"
        cdlFile.ShowSave
        picMessage.Print "please Wait"
        On Error GoTo FileError
        CR = Chr(13)
        Open cdlFile.FileName For Output As #20
        '-------print to the newfile.bib----------------
        Data1.Recordset.MoveFirst
        Do While Data1.Recordset.EOF = False
        Print #20, "@"; Data1.Recordset("head"); "{";
        Print #20, Data1.Recordset("c_k"); ",";
        If Data1.Recordset("author") <> "null" Then
        Print #20, "author="; Chr(34); Data1.Recordset("author"); Chr(34); ",";
        End If
        If Data1.Recordset("title") <> "null" Then
        Print #20, "title="; Chr(34); Data1.Recordset("title"); Chr(34); ",";
        End If
        If Data1.Recordset("journal") <> "null" Then
        Print #20, "journal="; Data1.Recordset("journal"); ",";
        End If
        If Data1.Recordset("year") <> "null" Then
        Print #20, "year="; Data1.Recordset("year"); ",";
        End If
        If Data1.Recordset("volume") <> "null" Then
        Print #20, "volume="; Data1.Recordset("volume"); ",";
        End If
        If Data1.Recordset("number") <> "null" Then
        Print #20, "number="; Data1.Recordset("number"); ",";
        End If
        If Data1.Recordset("pages") <> "null" Then
        Print #20, "pages="; Chr(34); Data1.Recordset("pages"); Chr(34); ",";
        End If
        If Data1.Recordset("month") <> "null" Then
        Print #20, "month="; Data1.Recordset("month"); ",";
        End If
        If Data1.Recordset("note") <> "null" Then
        Print #20, "note="; Chr(34); Data1.Recordset("note"); Chr(34); ",";
        End If
        If Data1.Recordset("key") <> "null" Then
```

```
        Print #20, "key="; Chr(34); Data1.Recordset("key"); Chr(34); ",";
        End If
        If Data1.Recordset("courses") <> "null" Then
        Print #20, "courses="; Data1.Recordset("courses"); ",";
        End If
        If Data1.Recordset("publisher") <> "null" Then
        Print #20, "publisher="; Data1.Recordset("publisher"); ",";
        End If
        If Data1.Recordset("series") <> "null" Then
        Print #20, "series="; Data1.Recordset("series"); ",";
        End If
        If Data1.Recordset("address") <> "null" Then
        Print #20, "address="; Chr(34); Data1.Recordset("address"); Chr(34); ",";
        End If
        If Data1.Recordset("edition") <> "null" Then
        Print #20, "edition="; Data1.Recordset("edition"); ",";
        End If
        If Data1.Recordset("howpublished") <> "null" Then
        Print #20, "howpublished="; Chr(34); Data1.Recordset("howpublished"); Chr(34); ",";
        End If
        If Data1.Recordset("booktitle") <> "null" Then
        Print #20, Chr(34); "booktitle="; Data1.Recordset("booktitle"); Chr(34); ",";
        End If
        If Data1.Recordset("organization") <> "null" Then
        Print #20, "organization="; Chr(34); Data1.Recordset("organization"); Chr(34); ",";
        End If
        If Data1.Recordset("chapter") <> "null" Then
        Print #20, "chapter="; Data1.Recordset("chapter"); ",";
        End If
        If Data1.Recordset("school") <> "null" Then
        Print #20, "school="; Data1.Recordset("school"); ",";
        End If
        If Data1.Recordset("institution") <> "null" Then
        Print #20, "institution="; Data1.Recordset("institution"); ",";
        End If
        If Data1.Recordset("type") <> "null" Then
        Print #20, "type="; Data1.Recordset("type"); ",";
        End If
        If Data1.Recordset("editor") <> "null" Then
        Print #20, "editor="; Data1.Recordset("editor"); ",";
        End If
        Print #20, "}"
        Print #20,
        Data1.Recordset.MoveNext
        Loop
        Close #20
        picMessage.Cls
        picMessage.Print "export success"
        Exit Sub
        FileError:
        picMessage.Cls
        picMessage.Print " export fail"
End Sub
```

Chapter 9

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