Introductory note

1. Aim

This is Module 4 of the ICT for Library and Information Professionals (ICTLIP) Training Package for Developing Countries. The Package of training materials is intended to provide knowledge and skills dealing with the application of ICT to library and information services. It is meant for library and information personnel who may become trainers in the area. The Package has been developed by the UNESCO Asia & Pacific Regional Office with funding from the Japanese Fund in Trust for Communication and Information. It contains six modules:

Module 1 Introduction to Information and Communication Technologies
Module 2 Introduction to Integrated Library Systems
Module 3 Information Seeking in an Electronic Environment
Module 4 Database Design, and Information Storage and Retrieval
Module 5 The Internet as an Information Resource
Module 6 Web Page Concept and Design: Getting a Web Page Up and Running

All the modules have a Teacher’s Guide and a Student’s Guide. The Student’s Guide maybe copied by the students in electronic format.

The Student’s Guide contains the following:
- Module Introduction
- Handouts: Lessons 1-5
- Activities
- List of references
- Glossary

2. Learning outcomes:

Module 4 concerns the concepts of database designing using WinISIS, and the storage and retrieval of information.

By the end of the Module, students should:
- Be able to use the basic features of WinISIS
- Be able to identify the principles of database designing
- Be able to design and use a sample database
- Understand the technological features
Know how to use conversion programs to import information from other systems to WinISIS

Note: The content of Module 1 must be understood by all students (either by students first finishing Module 1, or as a result of prior knowledge of ICT) before they proceed with the remaining five modules in the ICTLIP Training Package.

Scope of the Module 4 Lessons:

Lesson 1. Introduction to CDS/ISIS Windows (WinISIS) version: basic features
Scope of Lesson 1:
Lesson 1 will answer the following questions:
- Why use a database management system (DBMS)?
- What are the development stages in CDS/ISIS?
- What are the basic features and functions of CDS/ISIS Window version (WinISIS)?
- What are the hardware requirements and how compatible are they?
- How do you install WinISIS and run it on your computer?

Learning outcomes of Lesson 1:
By the end of the lesson you will
- Understand the advantages of using database management systems
- Understand the different development stages of CDS/ISIS
- Understand the basic features and functions of WinISIS
- Be able to install WinISIS on your computer and to open sample databases

Lesson 2. Database creation using WinISIS
Scope of Lesson 2:
Lesson 2 will answer the following questions:
- What are the four components of a WinISIS database?
- How do you define the Field Definition Table (FDT) of your database?
- How do you create the Work Sheets (FMT), Field Select Table (FST) and the Display Formats (PFT) of your database?
- How do you modify the FDT, FMT, FST and PFT?
- How do you create additional FMTs and PFTs?
- Finally, how do you create and modify a library database using WinISIS?

Learning outcomes of Lesson 2:
By the end of the lesson you will be able to:
- Identify the four components of a WinISIS database
- Define the FDT of your database
- Create FMT, FST and PFT
- Edit and modify FDT, FMT, FST and PFT
- Create additional FMTs & PFTs
- Create and modify a library database
Lesson 3. Information storage and retrieval using WinISIS

Scope of Lesson 3:
Lesson 3 will explain:

- How to enter data to create records in a WinISIS database
- How to edit a record or range of records
- How to retrieve information using different query formulations
- How to produce different types of output: printed or onscreen

Learning outcomes of Lesson 3:
By the end of the lesson you will be able to:

- Enter data in a WinISIS database
- Edit data in a WinISIS database
- Retrieve information by searching a database using different query formulations
- Save to a file or print search results/ any part of your database

Lesson 4. Advanced features of WinISIS

Scope of Lesson 4:
Lesson 4 will explain:

- How to use options in data entry work-sheet and data validation
- How to use global functions and advance utilities
- How to modify system parameters and to create password files
- How to link files in other programs
- How to sort the records in your database

Learning outcomes of Lesson 4:
By the end of the lesson you will be able to:

- Use options during data entry
- Validate data in a field/record
- Use global editing functions and advance utilities
- Change system parameters according to your needs and create password files
- Link files in other programs
- Sort your database

Lesson 5. Data exchange using conversion programs and back-ups

Scope of Lesson 5:

- How to back up your databases
- What are the available conversion programs
- How to use these conversion programs to convert databases from other software

Learning outcomes of Lesson 5:
By the end of the lesson you will:

- Be able to back up your databases
- Know about available conversion programs
- Be able to use these programs to convert data from other software
3. Learning Environment

The minimum hardware/software requirements for the Module are for every two students one Pentium 1 processor with 16MB RAM, a 1GB hard disk and a diskette drive, plus the WinISIS software. At least one printer should be available.

A teacher who is knowledgeable and skilled in using computers, the Internet, CD-ROMs and a variety of electronic resources, and who is skilled in teaching courses of this nature, should conduct the Module.

4. Duration

The Module is designed for a one-week course of eight hours per day for five days.

<table>
<thead>
<tr>
<th>Day</th>
<th>Lessons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1</td>
<td>Lesson 1. Introduction to CDS/ISIS Windows (WinISIS) version: basic features</td>
</tr>
<tr>
<td>Day 2</td>
<td>Lesson 2. Database creation using WinISIS</td>
</tr>
<tr>
<td>Day 3</td>
<td>Lesson 3. Information storage and retrieval using WinISIS</td>
</tr>
<tr>
<td>Day 4</td>
<td>Lesson 4. Advanced features of WinISIS</td>
</tr>
<tr>
<td>Day 5</td>
<td>Lesson 5. Data exchange using conversion programs and back-ups</td>
</tr>
</tbody>
</table>

5. Selection criteria for participants (participants profile)

Participants should be working in a library or information center, or in a school of library and information science. Participants with a degree in library and information science are preferred. Participants should normally have:

- A degree/ diploma in library and information science or at least five years' experience working in a library
- A working knowledge of English
- A working knowledge of using computers in a Windows environment
7. Typographical conventions

Activity

Activity for the students

References

Reference and further reading materials

Glossary

Glossary of terms used in the module
Slide 1

Database Design, & Information Storage and Retrieval

Lesson 1. Introduction to CDS/ISIS Windows (WinISIS) version: basic features

Slide 2

Scope

Lesson 1 will answer the following questions:

- Why use a database management system (DBMS)?
- What are the development stages in CDS/ISIS?
- What are the basic features and functions of CDS/ISIS Windows version (WinISIS)?
- What are the hardware requirements and how compatible are they?
- How do you install WinISIS and run it on your computer?

Slide 3

Learning outcomes

By the end of the lesson you will:

- Understand the advantages of using database management systems
- Understand the different development stages of CDS/ISIS
- Understand the basic features and functions of WinISIS
- Be able to install WinISIS on your computer and to open sample databases
Slide 4

Card catalog vs database management system (DBMS)

- A Database Management System (DBMS)
- Card catalog vs a DBMS
- Impact of using a DBMS in a library

Slide 5

Library DBMS

- Catalog Cabinet ——— DBMS
- Card drawer ——— Database
- Catalog card ——— Record
- Card data ——— Fields

Slide 6

What are the development stages in CDS/ISIS?

- Late ‘60s ——— Mainframe version
- December 1985 ——— Version 1.0 run on IBM PC/ XT
- March 1989 ——— Version 2.0
- June 1993 ——— Version 3.0
Slide 7

What are the development stages in CDS/ISIS?

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 for Windows</td>
<td>November 1997</td>
</tr>
<tr>
<td>1.31 for Windows (complete)</td>
<td>January 1999</td>
</tr>
<tr>
<td>3.0</td>
<td>June 2000</td>
</tr>
<tr>
<td>1.4 of CDS/ISIS for Windows</td>
<td>January 2001</td>
</tr>
</tbody>
</table>

Slide 8

What are the basic features and functions of CDS/ISIS Windows version (WinISIS)?

- Handling of variable length records, fields and sub fields which saves disk space and make it possible to store greater amounts of information
- Handling repeatable fields

Slide 9

What are the basic features and functions of CDS/ISIS Windows version (WinISIS)?

- Database definition component allows the user to define the data which can be processed for a particular need
- Data entry component allows the user to enter and modify data through user-friendly database-specific worksheets
Slide 10

What are the basic features and functions of CDS/ISIS Windows version (WinISIS)?

- Information retrieval component using a powerful search language
- Sorting and report generation facility which allows creation of printed products such as catalogs, indexes, etc.

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What are the basic features and functions of CDS/ISIS Windows version (WinISIS)?

- Data interchange function based on the ISO 2709 international standard used by leading database producers
- Integrated application programming language (CDS/ISIS Pascal and ISIS_DLL) allows the user to tailor the software to specific needs

Slide 12

What are the basic features and functions of CDS/ISIS Windows version (WinISIS)?

- Some functions allow users to build relational databases, though CDS/ISIS is not based on a relational model
- Powerful hypertext functions allow users to design complex user interfaces
- A number of tools are available to provide CDS/ISIS data bases online on the Internet
Slide 13

What are the hardware requirements and how compatible are they?

- Windows version: Intel Pentium of at least 16MB RAM, 10MB hard disk space, 3½ inch High Density diskette unit, Windows 3.1x or Windows 95/98/Me, NT or 2000.

Slide 14

What are the hardware requirements and how compatible are they?

- Compatibility between Windows & DOS versions: No conversion is needed to access databases developed with DOS version.
- Formatting language functions are 95% compatible. You may have to adapt display formats to the new one.
- Search engine is totally compatible. Work sheets are also compatible.

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How to install WinISIS and run it on your computer

- UNESCO Information processing tools CD-ROM can be obtained from the national distributor.
- CD-ROM includes the following:
  - CDS/ISIS for Windows 1.4
  - IDAMS for Windows 1.0
  - JavaISIS 3.0
  - IDIS for Windows 1.0
**Slide 16**

**How to install WinISIS and run it on your computer**

- When you insert the CD in the drive auto install window will open.
- Click on the Windows 1.4 icon
- The program will then start installing
- Follow the instructions on the screen
- Once it is installed open a sample database.

**Slide 17**

**At this point you should be able to:**

- understand the basic features, and functions of WinISIS;
- install WinISIS and
- run it on your computer

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**Activities**

**04.01.01**

Write down advantages and disadvantages of a card catalog and a DBMS.

**04.01.02**

Install CDS/ISIS through the CD-ROM and through the diskettes.
Slide 1

Database Design, and Information Storage and Retrieval

Lesson 2. Database creation using WinISIS

Slide 2

Scope

Lesson 2 will answer the following questions:

- What are the four components of a WinISIS database
- How do you define the Field Definition Table (FDT) of your database
- How do you create the Work Sheets (FMT), Field Select Table (FST) and the Display Formats (PFT) of your database
- How do you modify the FDT, FMT, FST and PFT
- How do you create additional FMTs and PFTs
- Finally, how do you create & modify a library database using WinISIS

Slide 3

Learning outcomes

By the end of the lesson you will be able to:

- Identify the four components of a WinISIS database
- Define the FDT of your database
- Create FMT, FST and PFT
- Edit and modify FDT, FMT, FST and PFT
- Create additional FMTs & PFTs
- Create and modify a library database
Components of a WinISIS database

- To create a database using WinISIS, the following components have to be defined:
  - Field Definition Table (FDT)
  - Data entry worksheet(s) (FMT)
  - Display format(s) (PFT)
  - Field Selection Table(s) (FST)

How to create a library database

- When you open the WinISIS program, you will get this window.

Creating a new database

- Then either click on DATABASE on the menu bar and then on NEW or
- Click on
Slide 7

Creating a new database

- Then you will get this dialog box
- Type the name you wish to give your database and click OK

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Slide 8

How to define the FDT

- Then you will get the field definition table where you can define your fields

---

Slide 9

How to define the FDT?

- The FDT consists of six parameters for you to define the structure of the records in your database:
  - **TAG**: A unique numeric value
  - **NAME**: The name label by which the user identifies the field
  - **TYPE**: 3 different types (Alphanumeric, Alphabetic, Numeric) can be selected by clicking on the arrow here
  - **REP**: To define whether the field is repeatable or not
  - **PATTERN/SUBFIELDS**: To define sub fields or patterns
Slide 10

How to define the FDT

Once you define all these parameters click on ADD.

FDT with seven fields

Slide 11

How to create the Worksheet (FMT)?

Once you define the FDT click on the green ARROW at the right hand bottom.

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How to create the Worksheet (FMT)

Then you will get this dialog box.

By clicking on the buttons in the middle you can add the fields to the worksheet.
Slide 13

How to create the Worksheet (FMT)

- Help messages and the default values can be included by clicking on v
- Once FMT is created click on the green (forward) arrow at the bottom

Slide 14

How to create the Display format (PFT)

- Then you will get this message
- WinISIS system will assist you to create the display format if you click on YES

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How to create the Display format (PFT)

- The system allows you to select one of the five formats shown in the figure
- Once you select a format the system automatically creates it and you can move to the next stage in the same way as you moved from FMT to PFT
Slide 16

How to create the Field Select Table (FST)

- Then you are given the option to use the Dictionary Assistant which will assist you in creating the FST. Click on YES as shown in the figure.

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How to create the Field Select Table (FST)

- At this point you have to select the fields by clicking on the checkbox beside the field name.

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How to create the Field Select Table (FST)

- Once you select the fields you can select the technique for each field by clicking on the down arrow at the Technique box.
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**How to create the Field Select Table (FST)**

- When you finish creating the FST and move forward you will get this dialog box.
- Then click on the **TERMINATE** button.

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**How to open the database you created**

- Then you will get this message and click YES.
- Next you will get this message and click on OK.

Slide 21

**How to open the database you created?**

- Then you will get this dialog box where you can select the database you created and open it.
Slide 22

New Database created with WinISIS

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How to edit/ create FDT, FMT, PFT & FST?

• In your new database click on EDIT in the menu bar. Then you will get this menu of which the four lines at the bottom will allow you to edit the FDT, FMT, PFT and FST.

• By clicking on the relevant line, the related component will open, e.g. clicking on Field Definition Table will open the FDT.

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At this point you should be able to create and modify databases using WinISIS.
Activities

04.02.01
Create a new database and define the FDT. You can use the fields given in the slide.

04.02.02
Create the PFT using the print format assistant.

04.02.03
Create the FST using the Dictionary Assistant.

04.02.04
Follow the steps demonstrated in the lesson and finish creating the database.

04.02.05
Open the database you created.

04.02.06
Edit the FDT of your database and create new FMTs and PFTs.

04.02.07
Create many databases and edit them until you acquire the skill to do it on your own.
Slide 1

Database Design, and Information Storage and Retrieval

Lesson 3. Information storage and retrieval using WinISIS

Slide 2

Scope

Lesson 3 will explain:
- How to enter data to create records in a WinISIS database
- How to edit a record or range of records
- How to retrieve information using different query formulations
- How to produce different types of outputs: Printed or onscreen outputs

Slide 3

Learning outcomes

By the end of the lesson you will be able to:
- Enter data in a WinISIS database
- Edit data in a WinISIS database
- Retrieve information by searching a database using different query formulations
- Save to a file or print search results/any part of your database
Slide 4

Entering data into a WinISIS database
- Open the database you created.
- The database window shown below will be displayed.

Window Title
Menu Bar
Tool Bar
Database window

Slide 5

Entering data into a WinISIS database
You can use either of the two methods given below to start entering data:
- Click on EDIT on the menu bar and click on DATA ENTRY in the pull down menu or
- Click on this button on the tool bar.

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Entering data into a WinISIS database
The data entry window consists of the following:
- MFN Box
- Navigator buttons
- New record button
- Field edit box
- Record status
- Save button
- Options sub menu
- Fields
- Help panel
Slide 7

**Entering data into a WinISIS database**

- To enter data select the desired field and then enter data in the field edit box.
- After entering data save the record and close it.

Slide 8

**Editing data in a WinISIS database**

- Open the data entry worksheet as described in the previous slides.
- To edit a particular record you can either use navigation buttons to move forward/ backward or type the MFN number in the MFN BOX and press ENTER.
- Select the desired field and enter data, save the record and close it.

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**Searching a WinISIS database to retrieve information**

- WinISIS search menu includes interfaces for GUIDED SEARCH & EXPERT SEARCH as well as entries to SAVE A QUERY and to RECALL A QUERY.
Searching a WinISIS database: guided search

- When you click on the GUIDED SEARCH on the search menu, the search window opens which allows you to formulate simple queries. This window consist of the following columns:

<table>
<thead>
<tr>
<th>Searchable fields</th>
<th>Search elements</th>
<th>Operators</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
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</tbody>
</table>

- The searchable fields allow you to specify a field in which the query element will be searched. By default, the query elements are searched in all fields.

- By clicking on the arrow on the left you can select the fields.

- If a field has been specified, the dictionary window will only highlight the terms taken from this field.

- To select the terms you can open the dictionary by clicking on the icon.
Searching a WinISIS database: guided search

- The search terms can be either entered from the keyboard or using the dictionary.
- The combo box in the Operators column allows you to connect the query element with the next one. The logical operators AND, OR, NOT can be used.
- The default operator is AND.

Searching a WinISIS database: guided search

- Once the search terms and the operators have been selected, the user can execute the search by clicking on the EXECUTE button.
- The number of records retrieved according to this query is shown in the box labeled NUMBER OF HITS.
- The search number is indicated in the box labeled SEARCH NUMBER.

Searching a WinISIS database: guided search

- The user can also combine the search elements with a previous search using the PREVIOUS SEARCH combo box.
- The OPERATORS combo box next to it allows you to combine with the search elements.
Searching a WinISIS database: expert search

- Click on EXPERT SEARCH on the SEARCH menu to open the EXPERT SEARCH window.

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Searching a WinISIS database: expert search

- The default EXPERT SEARCH window contains the following elements:
  - Search operator buttons
  - Search expression edit box
  - Search, history box
  - Dictionary button
  - Any term button

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Displaying search results

- The user can display the search results by clicking the DISPLAY button just after a search or using SEARCH RESULTS in the BROWSE menu.
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Displaying search results

- By default, search results will be displayed in a tabular format shown below which gives some instructions on using this mode.

![Image of a tabular window with instructions]

- **STOP** button to close this window

- Records retrieved

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Slide 20

Displaying search results

- The **OPTIONS** button in the tabular window provides some functions for printing.

![Image of the options menu with various printing options]

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Slide 21

Saving search results

- Search results can be saved for future use. If this is not done when you exit from the WinISIS programme, these will be automatically deleted.

- To save a search, click **SAVE SEARCH** on the search menu and select the search set in the SEARCH HISTORY window.

- You can also recall a saved search by using **RECALL SAVED SEARCH** on the search menu.
Printing search results/database

- Four types of printing parameters given below are stored in four pages of the print dialog box.
  - General parameters
  - Presentation parameters
  - Margin parameters
  - Layout parameters

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Printing search results/database

- General parameters

  - Set of records to be printed
  - Output device
  - Print format

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Printing search results/database

- Presentation parameters allow to add titles, headers and footers to the printout.
Margin parameters allow you to specify the paper size and the margins.
In addition data indentation; EOC (End of column) tolerance and fixed height to a record can be defined.

Layout parameters allow you to specify columns (with decorations); page numbers.
In addition number of records per page; using titles or sorting also can be defined.

WinISIS print settings allow you to print catalogue cards, labels, accession lists and bibliographies etc,
The print settings can be defined according to your needs.

At this point you should be able to create a small database, enter data, search the database, and get the output in a printed format or save in a file.
Activities

04.03.01 Enter about 10 records using the database you created in the previous lesson. Enter real data using books. Then check for any mistakes and edit them.

04.03.02 Do a simple search using the sample database CDS, first with one search element and then with three or four search elements combined with Boolean operators.

04.03.03 Select one of the previous searches done in activity 02 and combine it with another search element using Boolean operators.

04.03.04 Do the searches using the query formulations given in Annex 02. Use the sample database CDS.

04.03.05 Save some searches done in the previous session. Close the database and then open it again. Use RECALL SAVED SEARCH and check for the saved searches.

04.03.06 Try the different methods of printing explained in the slides. You can print your search results directly to a printer, and also save in a file and open it with any word processing program such as MS Word.
Slide 1

Database Design, and Information Storage and Retrieval

Lesson 4. Advanced features of WinISIS

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Slide 2

Scope

Lesson 4 will explain:

- How to use options in data entry worksheet and data validation
- How to use global functions and advanced utilities
- How to modify system parameters and to create password files
- How to LINK files in other programs
- How to sort the records in your database

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Slide 3

Learning outcomes

By the end of the lesson you will be able to:

- Use options during data entry
- Validate data in a field/record
- Use global editing functions and advanced utilities
- Change system parameters according to your needs and create password files
- Link files in other programs
- Sort your database
Slide 4

Using options in data entry worksheet

- When you click on the OPTIONS button in the data entry worksheet a menu appears.

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Using options in data entry worksheet

- Open dictionary will open the dictionary and any term in the dictionary can be inserted into a field by double clicking on it.
- Create a copy allows you to create a copy of any existing record as a new record.
- Delete & Undelete records can be used to delete records temporarily and then undelete.

Slide 6

Using options in data entry worksheet

- Create default values helps to enter default values while entering data. This method can be used when entering a set of books having a field with a common value. This default value will be effective only for the current session of data entry. It will be automatically removed when the data entry session is closed.
Data validation

- Data validation can be used to minimize the data entry errors.
- These validation rules are saved in a separate file called *dbase.val* (where dbase is the database name)
- Each line of the data validation file has the following general format:
  - tag: format

A Sample data validation file is given below:

- to test the length of the field:
  - If size v2 > 4 then 'Field 2 is too long' fi

- To ensure that some fields cannot be skipped without entering data
  - if a(v4) then 'This field cannot be empty' fi

Global editing functions

- When you click on the UTILS a menu appears which includes the global editing functions and advanced database utilities.
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**Global editing functions**

- Global editing allows you to **Add**, **Delete** or **replace** data within a field.
- This can be applied to a range of MFNs or to a search set.

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Slide 11

**System parameters**

- WinISIS uses many system parameters used in CDS/ISIS DOS version.
- Parameters 0-5, 14 are the same as in DOS version.
- In addition to the parameters shown in the default SYSPAR.PAR file, there are many new parameters in the Win version.

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**Some useful system parameters**

- 0=File redirection (used when creating password files)
- 137=Close database confirmation
- 102=Default menu (DF). Access can restricted using SH
- 125=Database access restriction. Default value 0 allows for open access, 1 allows for restricted access from a list
- 130=Automatic inverted file update
- 105=Automatic display of search results
- 980=Tabular display of search results
**Slide 13**

**Creating password files**

- Personalised system parameter files (password files) can be created by using 'O' (zero) parameter in SYSPAR.PAR file.
- A password file (cds.par) restricts the user to searching only two databases.

<table>
<thead>
<tr>
<th>1</th>
<th>D:\winisis\prog\</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>D:\winisis\menu\</td>
</tr>
<tr>
<td>3</td>
<td>D:\winisis\msg\</td>
</tr>
<tr>
<td>4</td>
<td>D:\winisis\work\</td>
</tr>
<tr>
<td>5</td>
<td>D:\winisis\data\</td>
</tr>
<tr>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>102</td>
<td>SH</td>
</tr>
<tr>
<td>125</td>
<td>1</td>
</tr>
<tr>
<td>122</td>
<td>64, -4, -4, 803, 575</td>
</tr>
<tr>
<td>1001</td>
<td>d:\winisis\data\smnet.mst</td>
</tr>
<tr>
<td>1002</td>
<td>d:\winisis\data\lib.mst</td>
</tr>
</tbody>
</table>

**Slide 14**

**Linking files in other programs**

- Including link commands in a print format (*.pft) allows you to link files in other programs.
- CMD command - Runs Windows and MSDOS programs. It is necessary to indicate the drive, directory, path where the program (usually the *.EXE file) is located.
- link('CLICK HERE FOR TEXT'); CMD c:\progr~1\micros~1\office\winword\v101 (file and path names should be written the way they appear in DOS, eg. Program files as progr~1)

**Slide 15**

**Linking files in other programs**

- CMD command to display a picture file.
  - link('CLICK HERE FOR PICTURE'); CMD pbrush \*.v200).
  - In this case path and the file name of the picture file should be entered in the field 200.
Slide 16

**Linking files in other programs**

- **CMD command to call an audio or multimedia file**
  - `link('CLICK TO PLAY MUSIC','CMD mplayer \’\v100')`
  - In this case path and the file name of the audio/video file should be entered in the field 100

Slide 17

**Linking files in other programs**

- **CMD command – alternate specifications**
  - Assume that field 300 has subfields abc.
  - Data is entered as follows: ^aCLICK FOR PICTURE^bPBRUSH^cC:\WINISIS\BG\UNESCO.BMP
  - Format will be `"alink((v300^a),'CMD \’\v300\’b",\’\v300\’c)`

Slide 18

**Linking files in other programs**

- **OPENFILE Command calls a picture/image/text file automatically, that is without having to specify the path (drive and directory) of the application software**
  - `link('CLICK TO OPEN FILE','OPENFILE path to file to be opened and name of the file')`
  - `mplLINK('CLICK TO OPENFILE')` "OPENFILE C:\\mydocu-\\unesdoc.doc"
Slide 19

Linking files in other programs

- mpl.link('CLICK TO OPEN FILE', 'OPENFILE c:\winisis\bg\unesco.jpg')
- mpl.link('CLICK TO OPEN FILE', 'OPENFILE http://www.unesco.org')
- mpl.link('CLICK TO OPEN FILE', 'OPENFILE mail to: susan@unesco.org')

Slide 20

Sorting information

- WinISIS print settings allow you to sort information.
- The last page of the print dialog box contains the sort parameters.

Slide 21

Sorting information

- Sort parameters include the following:
  - N(umber) of headings: means the number of levels of headings.
  - Stopword file: used when sort keys are generated from a field which is indexed using indexing technique '4'. This avoids words like 'THE', 'OR', 'AND'.
  - Heading format: you can provide your own format or leave it blank, so that the default will be used.
Slide 22

Sorting information

- Sort parameters:
  - Sort key parameters: up to four sort keys may be specified. If more than one record has the same sort key (Author) then a second sort key can be used to sort them. If a record does not have the primary sort key it will not appear in the sorted list.

Slide 23

Sorting information

- Sort key parameters: for each sort key three sets of information have to be provided
  - Key length: This defines how many characters are to be taken from the specified field.
  - Heading processing indicator: You can select 0, 1, 2, or 3. Your choice should depend on what you intend to produce. For example, a catalog card would be 1, and an accession list would be 0.

Slide 24

Sorting information

- A Field selection table: This is similar to the FST lines in the database definition services. Here data are selected to act as sort keys. Eg. 10 (v10/) This selects sort key 1, using the whole field from field 10 (repeatable field)
Slide 25

Sorting information

Completed sorting dialog box

Slide 26

Once you finish defining the sort page in the print dialog box you can save the sorted data into a file or get a print out directly as discussed in Lesson 3.

At this point you should be able to use advanced features in editing and use data validation to minimize errors in data entry and to get a sorted output.
Activities

04.04.01
Open the database created by you and define default values for the publisher and author fields and enter a few records using these default values.

04.04.02
Create a val file for the database created by you.

04.04.03
Use the database you created to add and replace data in some fields using global functions.

04.04.04
Create a password file for the database you created.

04.04.05
Create a new PFT file for your database using all these LINK commands and also enter new data in the fields to check how they work.

04.04.06
Try the different methods of sorting explained in the slides and check the output.

04.04.07
Sort the sample database CDS by author and title, save in a file and open it with WORD to check your output.
Slide 1

Database Design, and Information Storage and Retrieval

Lesson 5. Data exchange using conversion programs and back-ups

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Slide 2

Scope

Lesson 5 will explain:

- How to back up your databases
- What are the available conversion programs
- How to use these conversion programs to convert databases from other software

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Slide 3

Learning outcomes

By the end of the lesson you will:

- Be able to back up your databases
- Know about available conversion programs
- Be able to use these programs to convert data from other software
Backing up databases

- Export function allows you to copy part/full databases onto a diskette or to a file
- Import facility allows you to bring data from outside into your database

Slide 5

Backing up databases: exporting

Click on Export in the drop down menu of Database to start the EXPORT function which opens a dialog box.

Slide 6

Backing up databases: exporting

This dialog box allows you to give a name to the file and to choose the destination of your export file. Then click OK.
Slide 7

**Backing up databases:**
- This dialog box appears – most of the default values can be accepted.
- You can limit the records exported either by giving a range of MFNs or by selecting a previous search.

Slide 8

**Backing up databases:**
- When you have completed the above dialog box click the OK button.
- Then computer will begin exporting.

Slide 9

**Backing up databases:**
- **Import** function allows to transfer records from a ISO 2709 format into a WinISIS data base.
  - Database definition should be set up before importing records.
  - Database can either be empty or already have records in it.
Slide 10

Backing up databases: importing

To import data:
- Open the database
- Then choose database ➔ Import
- Select the file to be imported in the next dialog box
- Click OK
- The Import dialog box will appear

Slide 11

Backing up databases: importing

- The default import dialog box can be used.
- If you need to reformat you can give FST file name at this point.

Slide 12

Backing up databases: importing

Options: Load/Merge/Update should be used carefully
- Merge: imported records will be added to any existing records. If the imported records have the same MFNs they will not be imported.
- Load: any existing records will be lost and only the imported records will be there
- Update: works like merge and if the import records have the same MFN as the existing records they will be overwritten.
Slide 13

**Backing up databases**

- Regular backups should be kept for use in case of accidents, i.e. hardware crash, programme corruption etc.
- Backups can be kept in diskettes or in a different directory of the same PC.
- If the database is too big to be copied to one diskette it can be compressed and copied to many diskettes using Winzip.
- Database can also be copied to a CD if you have a CD writer.

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**Slide 14**

**Backing up databases**

- Backups can be kept either by
  - Copying all the files in the database directory
  - Copying the database definition files (FDT, FMTs, PFTs) and exported file of the MST
- Remember to update the inverted file before exporting & copying files.

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**Slide 15**

**Backing up databases**

- If all the files of the database has been copied just copy them back to recover the database.
- If only the database definition files have been copied
  - create a new database with the same name
  - Replace the files with the back up files
  - Import the exported MST file and update the database.
Conversion programs

- **Fangorn**: converts data from online and CD Rom information systems such as dialog
- **DB3ISO**: allows to export data bases in dBASEIII to ISO2709
- **ISO88**: allows to load records from an ISO2709 file into a dBASEIII data base.
- **CCF**: converts records in UNIMARC format to UNESCO’s Common Communication Format (CCF) and vice-versa.
- **IsisAscii**: converts a wide range of Ascii file types. This allows to convert data from MS Access.

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**Slide 17**

Fangorn

- To install copy the FANGORN application file in the CDSISIS CD to a folder in the PC and double click it
- Open the ENGLISH.MAN file with WordPad
- This file gives all the instructions on how to use this program

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**Slide 18**

DB3ISO

- To install follow the same method used for FANGORN
- When you run the program, it ask you type the data base name in dBASEIII, the ISO file name to create, the FST file and the amount of registers to copy. If you don’t specify a FST file name it will copy every field and record in the same order as the original data base in dBASE III.
Conversion programs

**ISODB3**
- To install follow the same method used for FANGORN
- When you execute the program it shows you a work sheet, there you can input the parameters necessary for loading records.

Conversion programs

**CCF**
- CCF.EXE file and all other files are included in the directory CCF.
- CCF.TXT file gives all the instructions on how to use this program.

Conversion programs

**IsisAscii**
- Unzip the IsisAscii Setup zip file to a temporary directory in your hard disk
- The IsisAscii Setup.exe file will install the necessary components on your system automatically.
- IsisAscii runs on Windows 95, 98, NT4 and Win2000. It does not run on earlier systems.
- The installation program will also install the UNESCO/BIREME ISIS_DLL, a shared component which allows to manage CDS/ISIS databases.
At this point you should be able to backup your databases and import and export data using WinISIS import/export functions as well as conversion programs.

By the end of this lesson you should also be able to handle WinISIS software for automating your library functions.
Activities

04.05.01
Export records from CDS sample database using different methods indicated in the lesson. Eg. Export range of MFNs, search results, marked records of a search.

04.05.02
Import the files exported in the previous activity using different options.

04.05.03
Create backups using different methods described in the Lesson. (Use the sample database CDS).

04.05.04
Recover the database using different methods demonstrated in the lesson.

04.05.05
Convert data using the conversion programs demonstrated in this Lesson.
REFERENCES


- Di Lauro, A. IDIN manual for the creation and management of a bibliographic database using Micro-ISIS. Paris: OECD, 1988 (Includes diskette)

- Di Lauro, A. Manual for preparing records in microcomputer-based bibliographic information systems with annexes for implementation by Ed Brandon. Ottawa: IDRC, 1990 (IDRC-TS67e) (Also available in French. Includes a diskette with a number of pascal programs).


**WINISIS Related Web Sites**

*Argentina: http://www.cnea.gov.ar/cac/ci/isis/isidams.htm*

The Argentinean CDS/ISIS Home page provides information on CDS/ISIS activities in Argentina and links to Spanish-speaking discussion lists; also includes a Clearinghouse for CDS/ISIS applications;

*http://www.netverk.com.ar/~manzanos/utils/isisut.htm Utilitarios para MicroISIS (Utilities for CDS/ISIS) contains a number of tools for DOS and Windows;*

*Argentina: http://www.medlib.am*

Association "CDS/ISIS Users Group". Created in 1997, aims to implement CDS/ISIS in archives, libraries and museums. They also provide an Armenian version of CDS/ISIS;

*Belgium: http://www.vub.ac.be/BIBLIO/ISIS_URL.htm*

CDS/ISIS on the Internet, a collection of pointers (Vrije University Brussels)

*Brazil: http://www.bireme.br/isis/I/family.htm*

ISIS Software family at virtual health library, BIREME

*http://www.geocities.com/SiliconValley/Horizon/6414/pindex.htm AsaHOME - Information on CDS/ISIS, solutions and utilities;*
  CDS/ISIS Informação - a Portuguese version of this page.

- **Ecuador**: http://www.fundacyt.org/fwe2.nsf
  The FUNDACYT web page, distributor of CDS/ISIS;

- **Estonia**: http://www.lib.ttu.ee/web/muu/isis.html
  CDS/ISIS page from the Tallinn Technical University Library

- **FAO**: http://members.aol.com/cdsisis/
  CDS/ISIS Collection at Current Agricultural Research Information System (CARIS), FAO

- **Korea(South)**: http://www.kiniti.re.kr
  KINITI - Korea Institute of Industry & Technology
  Information, provides the Korean version of CDS/ISIS;

- **Italy**: http://www.dba.it/dba.htm
  The Associazione per la Documentazione, le biblioteche E gli archivi (DBA), the Italian distributor, provides information on CDS/ISIS activities in Italy and links to other sites;

- http://www.geocities.com/CapeCanaveral/3616/data.htm#CDS-ISIS
  A selection of CDS/ISIS links was also collected by Beppe Pavoletti, Italy;

- http://www.geocities.com/SiliconValley/Horizon/3649/ClubISIS, information and freeware CDS/ISIS utilities

- http://web.tiscali.it/javaisis/
  Information on JAVAISIS

  Several Isis related applications (including a WWW gateway)
- **Mexico**: [http://www.conacyt.mx/secobi/cursos.html](http://www.conacyt.mx/secobi/cursos.html)
  - Consejo Nacional de Ciencia y Tecnologica (SEP-CONACYT). Includes a wide training course calendar.

- **Namibia**: [http://www.cds-isis.org.na](http://www.cds-isis.org.na)
  - CDS/ISIS dedicated site for African English speaking countries. Also proposes an on-line version of the Winisis Reference manual.

- [http://www.cds-isis.org.na/syspar.html](http://www.cds-isis.org.na/syspar.html)
  - Full list of system parameters in the syspar.par

- [mailto:listserv@witbooi.natarch.mec.gov.na](mailto:listserv@witbooi.natarch.mec.gov.na)
  - ListServ for ISIS and IDAMS users in Africa (message body: subscribe ISIDAF). Further messages to the list: isidaf@witbooi.natarch.mec.gov.na

- **Netherlands**: [http://www.bib.wau.nl/isis/](http://www.bib.wau.nl/isis/)
  - The CDS/ISIS User Forum provides links to various CDS/ISIS sites and includes information on the very instructive, active and animated CDS/ISIS Discussion List

- [http://www.bib.wau.nl/isis/intro/](http://www.bib.wau.nl/isis/intro/)
  - An introduction for novice/prospective users

- [http://www.clingendael.nl/cds-isis/nedisis.htm](http://www.clingendael.nl/cds-isis/nedisis.htm)
  - The Netherlands CDS/ISIS Users group. Provides links to some databases online.

- [http://www.agralin.nl/isis/software.html](http://www.agralin.nl/isis/software.html)
  - The CDS-ISIS software archive: Utilities and other helpful programs for users of CDS-ISIS.

- **Poland**: [http://www.iinte.edu.pl/klub.htm](http://www.iinte.edu.pl/klub.htm)
  - Polish CDS/ISIS distributor. This site provides information on the software and on the Polish user group;

  - YU-ISIS - CDS/ISIS User Group (National Library of Serbia)
- **Slovak Republic:** [http://www.sltk.stuba.sk/isis/htm](http://www.sltk.stuba.sk/isis/htm)
  Slovak centre of Scientific and Technical Information, national distributor of CDS/ISIS;

- **Spain:** [http://www.cindoc.csic.es/isis/isis.htm](http://www.cindoc.csic.es/isis/isis.htm)
  Consejo Superior de Investigaciones Científicas - Centro de Información y Documentación Científica (CINDOC) - National Distributor; offers also an online manual (Spanish)

- [http://www.cindoc.csic.es/isis/enlaces.htm](http://www.cindoc.csic.es/isis/enlaces.htm)
  Country-wise collection of ISIS related links

- **Sri Lanka:** [http://www.nsf.ac.lk/purna/isis.htm](http://www.nsf.ac.lk/purna/isis.htm)
  Information on Integrated Library System (PURNA) and activities related to that.

- **UNESCO:** [http://www.unesco.org/webworld/isis/isis.htm](http://www.unesco.org/webworld/isis/isis.htm)
  UNESCO Home page for CDS/ISIS

- **UK:** [http://www.axp.mdx.ac.uk/~alan2/](http://www.axp.mdx.ac.uk/~alan2/)
  The ISISPLUS (the CDS/ISIS UK User Group) Home page provides information on CDS/ISIS activities in the UK and links to other sites.

- **Uruguay:** [http://www.gti.net/reu/iquery/](http://www.gti.net/reu/iquery/)
  Iquery, search engine for CDS-ISIS databases
Glossary of terms for Module 4

Access point: see Search term

ANY file: An optional file containing the set of ANY terms defined for a given database. The ANY file is a text file which may be created with any text editor (e.g. NOTEPAD or WRITE).

ANY term: A collective term representing an arbitrary (but pre-defined) set of search terms. When used in a search expression, an ANY term is automatically translated to the set of search terms it represents, linked with the logical OR operator. If, for example, the ANY term ANY BENELUX represents the search terms BELGIUM, NETHERLANDS and LUXEMBOURG, then when ANY BENELUX is used in a search expression it will be translated to (BELGIUM + NETHERLANDS + LUXEMBOURG). Before an ANY term can be used in a search expression, it must be defined in the ANY file.

ASCII: (American Standard Code for Information Interchange) A 7-bit binary code used to encode characters on a computer. ASCII codes range from 0 to 127. On many computers, such as the IBM PC, the code has been extended to 8 bits, providing therefore an additional set of 128 codes from 128 to 255. These are not normally part of the ASCII standard and cannot therefore be expected to be the same on all computers.

Browsing: the sequential display of Master file records in MFN order, i.e. in the order in which the records have been entered.

Control key: Keys on your keyboard which, when pressed, perform a specific pre-defined action.

Cut and paste: An editing operation, available in most word processing packages, consisting of moving a piece of text from one place to another. The CDS/ISIS field editor supports the standard Windows cut and pasting operations.
**Database**: any collection of data organized for storage in a computer memory and designed for easy access by a given user community. The data may be text, (including numbers and other symbols), still images, moving images (animation or video) and/or sound sequences. Each unit of information stored in a database consists of discrete data elements, each containing a particular characteristic of the entity being described. For example, a bibliographic database will contain information on books, reports, journal articles, etc. Each unit will, in this case, consist of data elements such as author, title, and date of publication. Data elements are stored in fields, each of which is assigned a numeric tag indicative of its contents.

**Database management system**: Systems software that facilitates the management of one or more databases often containing a query language for data extraction.

**Data element**: An elementary piece of information which CDS/ISIS can identify. A data element may be stored in a field or a subfield.

**Data entry worksheet**: An electronic form used for entering data in a database.

**Default value**: The pre-defined contents of a field.

**Dialog box**: An electronic form used by CDS/ISIS to collect the parameters for a particular operation such as a print run or an export operation.

**Dialog language**: The language used by CDS/ISIS to interact with the user. CDS/ISIS is designed to support an unlimited number of dialog languages.

**Dictionary**: The set of search terms for a given database.

**Display format**: see Format.

**Display mode**: The manner in which fields are displayed. CDS/ISIS may display fields in three different modes: proof, data or heading mode.

**Export**: The conversion of a database from the form in which it is stored for processing to a form suitable for transmission to other users or systems.

**FDT**: see Field Definition Table.

**Field**: The container of a data element e.g. author, title.
Field Definition table: A table defining the fields of a given database

Field Select Table: A table defining criteria for extracting one or more elements from a Master file record required for a particular process. Field Select Tables may be used for defining the contents of the Inverted file, for sorting records before producing a printed report or to reformat records during an import or export operation.

Filing information: A special coding inserted in a field defining how it must be sorted.

FST: see Field Select Table

Function key: see Control key

Gizmo: A special encoding of accented characters or other special characters used for the exchange of data between the various versions of CDS/ISIS. A gizmo represents a single character and consists of three characters, the first of which is always an @ sign and the next two define the character being represented. By providing gizmo conversion tables at each end, two users are able to transmit and receive correctly characters having different machine codes.

Hit: A record satisfying a set of specific search criteria.

Hit file: A file created by CDS/ISIS to sort Master file records.

Hit list: The set of records retrieved by a given search expression.

Hyperlink: Can be either graphics or text that is coloured or underlined. A hyperlink is represented by a "hot" image or display text that the user clicks to go to a different location. The location can be on your hard disk, on your organization's intranet, or on the Internet, such as a page on the World Wide Web. You can insert hyperlinks that go to a different document, Web page or to an e-mail address. You can even use hyperlinks to go to multimedia files, such as files containing sounds and videos.

Import: The conversion of a database from the form suitable for transmission to other users or systems to the form required by CDS/ISIS for processing.
Indexing: The process of extracting search terms from a Master file record

Inverted file: A logical structure built automatically by CDS/ISIS to enable fast retrieval. It contains the dictionary of search terms and, for each term, a list of references to the Master file records from which the term was extracted. The Inverted file actually consists of six physical files.

ISO: International Organization for Standardization

ISO 2709: An international standard format for information interchange recommended by ISO

Language: see Dialog language

Limits: see MFN limits

Link file: A file built by CDS/ISIS during the process of creating the Inverted file

Master file: A logical structure containing the records of a given database. The Master file actually consists of two physical files

MFN: (Master File Number) the unique number automatically assigned by CDS/ISIS to each record entered in a database. MFNs are assigned sequentially, starting from 1, and represent the chronological order of entry

MFN limits: A range of MFNs, e.g. 1/50, defining the Master file records to which a certain operation is applied

Mode: see Display mode

Occurrence: One instance of a repeatable field

Paste: see Cut and paste

Pattern: A character by character description of the possible contents of a field. A pattern defines, for each position of the field, the type of characters it may contain (e.g. alphabetic, numeric)

Print format: see Format

Qualifier: A construct used, during searching, to specify the field or fields in which a given search term should appear

Record (Master file): The set of fields containing all the data elements of one information unit stored in a database
**Repeatable field**: A field which may occur more than once in a record

**Save file**: A file used to save the results of a search

**Search term**: Any of the elements that can be used to retrieve a record, e.g. a subject descriptor, a name, a word, a document code. The search terms for the records of a given database are defined in the inverted file FST

**Stopword**: A non significant word to be ignored when indexing a field (e.g. articles, prepositions.)

**Subfield**: One of the data elements contained in a field. A subfield is identified by a subfield delimiter

**Subfield delimiter**: A two character code preceding and identifying a subfield of a field

**Tag**: A number uniquely identifying a particular field

**Variable length field**: A field that does not have a fixed length. Instead, the field length varies depending on what data is stored in it. With variable-length fields, the fields in each record would be just long enough to hold its data.