

# 'LABLIB' - EVERYMAN'S TOOL TO FIND SUITABLE LANGUAGE TEACHING MATERIALS

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## INTRODUCTION

An integral part of the activities of the Finnish Language Centres is the acquisition of teaching materials and the transmission of information about them to both students and teachers. There is an abundance of teaching materials and some of them are not easily approached. Tape recordings and video programs are especially difficult to access since it is not possible to thumb through them as you would printed material.

Attempts have been made to solve this problem over a period of years beginning with work carried out at the University of Jyväskylä, (Berggren 74). Work has continued at the University of Turku, and one result was the publication of a classification system for tape recordings meant for use in state schools, (Lindqvist 84). In 1986 an ADP-based information-retrieval system assuming a minimum of computer expertise on the part of the user was produced which took into consideration the needs of various vocational training institutions, (Lindqvist 87). The system has been improved ever since according to the following main goals.

- There should be comprehensive information about tape recordings and video programs.
- It should be possible to search for teaching material according to the several characteristics of the material.
- The system should be easy to use without any additional booklets.
- The system should be bilingual so that Finns may use it in Finnish and foreigners in English.
- All information should be centralised to one location so that updating is carried out only at one location and thus all users have the latest information.

According to the last item of the goals, it is reasonable to use mainframes, which make

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the system fast and centralised. Unfortunately the mainframes are usually clumsy to use and a program made for one mainframe type will not work on other types. Thus the system is made for microcomputers (PCs) which are not so fast but the programs are transferable. The system is written in dBASE IV® language, which was considered widespread and suitable for creating a user-friendly system. In addition, it is possible to use dBASE IV® with Local Area Networks (LANs), enabling the centralisation of information and a number of concurrent users of the system.

In this paper we describe the LABLIB system. We start in Section 2 by describing how teaching materials are characterised. In Section 3 the LABLIB system is described generally and in Section 4 the search for a material is described. The maintenance of the information about the materials is described in Section 5. Finally experiences and plans for future work are given in Section 6.

### COLLECTING DATA ABOUT TEACHING MATERIALS

We classify teaching materials by the media used and by language group. The three media types which we have used are audio tapes, videotapes and computer programs. The six language groups used are English, Germanic languages, Nordic languages, Romance languages, Slavonic languages and other languages. This partitioning is done in order to divide the teaching materials into smaller groups from which the search for desired material is faster than from the whole set of materials.

Special information collection forms are used to gather the data which is fed into the LABLIB system. All media types are described by using the same form in which the irrelevant fields are left blank such as "duration" with computer programs and "size"

with audio tapes and videotapes. In addition, the same form is used for individual recordings, teaching material packets and the individual units of such packets. Thus, a course with nine units would be described on a total of ten forms, with the first covering the entire packet and one for every unit. Individual materials consisting of a single program need to be described on only one form.

The following information is collected about teaching materials: program code, program name, number of units in the program, number of each unit, name of each unit, language variant, text genre, grammar exercised, level of difficulty, exercise type, additional material, actual contents of the material, communication event, number of copies, duration of tape, size of computer program, author / publisher, year of publication, year of acquisition, original language description and Finnish description. (Note that for audio tapes and videotapes "duration" is used and for computer programs "size" is used giving a total number of 20 characteristics per teaching material.)

Most of the features are described in textual shape excluding language variant, text genre, grammar exercised, level of difficulty, exercise type, additional material, actual contents of the material and communication event. These features are described separately by using predefined codes. The codes are used to unify the scales used (e.g. the level of difficulty) and to predefine used keywords (e.g. the communication event).

The codes used to describe the seven first mentioned features (excluding the actual contents of the material and communication event) are constructed for this system. The codes are easily modifiable. For each feature we use at most 20 codes, the length of each being one character. The meanings and use of each feature are described in the following.

The program code is an identifying number given to every teaching material packet, the form of which depends on the coding system used by each educational institution. Normally the code indicates the physical location of the teaching material. Therefore it is the ultimate goal in ADP-based material retrieval.

The language variant mainly refers to the regional varieties of the language group. For example, for English we use the following 11 variants: "American English," "British English," "Australian English," "Foreigner's English," "Irish English," "Nigerian English," "Non-standard black English," "South-African English," "Scottish English," "Welsh English" and "Special group language." Each language group has its own variants. The variants are coded as one letter codes like "A" for American English, "B" for British English, etc. The use of codes makes it faster to collect data. However, only the collector of the data uses the codes. The ordinary user of LABLIB system handles variants with natural language.

By text genre the textual nature of the teaching material is meant. We have used the following genres: "Dialogue, discussion," "Interview," "Conference," "Review," "Report, news, document," "Lecture," "Examples, texts," "Manual," "Play," "Story, fairytale," "Poem," "Song," "Music" and "Text." The three most suitable ones can be selected.

In the grammar section the major grammatical structures presented in the recording are defined. The grammars used are: "Sounds," "Intonation, rhythm," "Nouns, articles," "Adjectives, adverbs," "Pronouns," "Verbs," "Preposition, postposition, particle," "Syntax" and "Idioms." The three most suitable ones can be selected.

The level of difficulty is measured with

a scale of three values, namely "Elementary," "Intermediate" and "Advanced." In addition to this scale, authentic speech not necessarily planned or modified for language teaching purposes is marked as "Authentic".

Possible values for exercise type are: "Drill," "Listening comprehension," "Note-taking," "Transformation," "Reading comprehension," "Repetition," "Interpretation," "Recognition (sounds)," "Completion, dictation," "Oral production," "Summary," "Role-play" and "Game." Three can be selected.

If the recording has accompanying auxiliary materials, these are listed in the additional material section using the following alternatives: "Books," "Exercise book," "Manual," "Text, tapescript," "Worksheet," "Answer sheet," "Correction sheet," "Slide," "Transparency," "Music," "Films," "Newspaper," "Videotapes," "Map," "Other picture material," "Computer program" and "Video disc." Also the number of the additional materials can be included.

The actual contents of the programs are analyzed with the indices prepared for UNESCO (UNESCO 77). These indices were developed specially to describe the content of scientific texts and other materials. The indices facilitate the collection of descriptive data for teaching materials and they are unambiguous and language independent. The user may initiate either a broad search (e.g. the index F covers Life Sciences, which includes Natural History, Biology and Medical Science), a narrow search (e.g. F95.20.60 means Abortion) or anything in between. The use of these indices requires the UNESCO Thesaurus.

Features included in or related to the communication events are described by using the threshold level system for English

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(Threshold 75). These are needed mostly when describing units designed specifically for language teaching. The Threshold book is needed when using these codes.

The number of copies section contains information as to the number in the possession of the institution. The existence of a version with pauses can be marked with a suitable stamp (e.g. "X").

The duration of each tape is given in minutes and seconds for the entire recording and for each unit separately.

The generally known abbreviations (e.g. BBC) can be used with the author and with the publisher.

The original language description (and Finnish description) is as precise and clear a description of the content and other features of the recording as possible, without repeating the above-recorded features. The description can also include key words which might ease the task of future users when searching for teaching materials.

### **GENERAL DESCRIPTION OF THE SYSTEM**

Menus and function keys are used for controlling the program so that there is no need to remember and write any commands (see Figure 1). In the menus the user selects one item from the items given by moving a block above the wanted item by arrow-keys and then confirms the selection by pressing the RETURN-key. The pressing of a function key causes an action, e.g. the pressing of function key F2 changes the language in use from Finnish to English. The meanings of the function keys are written briefly at the bottom of the screen.

The system is bilingual enabling the use of the program in Finnish or in English. It is possible to change the language used

anytime during the program by pressing the function key F2. The system is not fixed to these two particular languages: it is possible to modify the system to use any two languages. All texts used in the program are gathered into separate files which are easily modified by any text editor. Thus LABLIB may be modified to e.g. German and French just by translating the used texts in the files (and then by compiling the files with the dBASE IV® program).

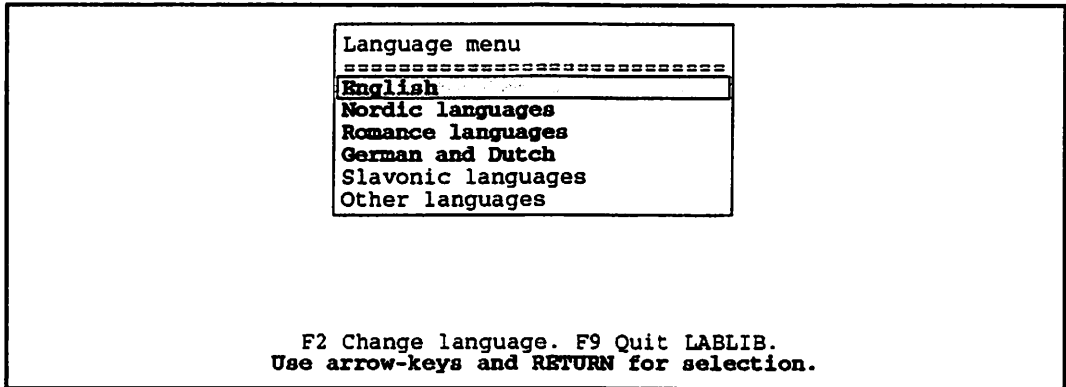
The system is made by using the dBASE IV® program, which is a commercial database program made for microcomputers. The LABLIB system needs either a dBASE IV® or a RUNTIME version of dBASE IV® to work. The latter is a freely shareable program, but it is not usable in networks and it does not allow for the customising of LABLIB, i.e. translating the system to other languages and modifying the codes used.

The LABLIB system is divided into two separate programs by the name of LABLIB and EDIT. The former is used for searching for the required teaching material and the latter is used for updating the teaching material information. The users who want to search for the teaching material proper use only the LABLIB program. Thus they cannot accidentally modify the teaching material information. The EDIT program is used only by the administrators of the system. It is used for adding, modifying and deleting the teaching material information.

### **THE USE OF THE SEARCHING PROGRAM LABLIB**

In the LABLIB program, the user characterizes the desired teaching material, and the system displays the features of the material meeting the search criteria. One teaching material is displayed at a time. If the desired material is not found, the user may redefine the search and try searching again and continue the cycle until

Figure 1. The selection of the used language group in the LABLIB. The grey block indicates which group is selected when the RETURN-key is pressed. The block may be moved by arrow-keys. The language groups in grey have no teaching material.



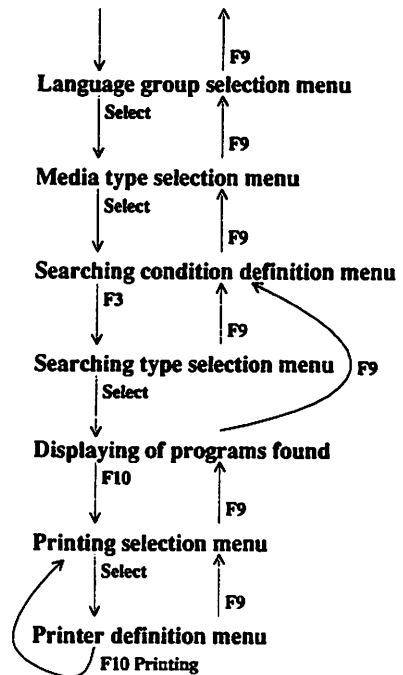
something is found (ors/he gives up). When interesting material is found, the user may print the characteristics of the material.

The program is divided into seven states (see Figure 2), each of which corresponds to one menu in the program (excluding the "Displaying of program found" which is a state in which the features of the program found is displayed). The program control flows from one state to the next usually by making a selection from the menu. Control flows backwards by pressing the function key F9. The program is terminated by pressing F9 several times.

At the beginning of the program the user selects a language group (see Figure 1) and a media type (see Figure 3). After that, the user defines the searching condition i.e. characterizes the desired teaching material which is done by defining values into 14 characteristics (see Figure 4 a). The coded characteristics are defined by using a menu (see Figure 4 b), and the others by typing the value (see Figure 4 d). When the desired teaching material is characterized, the function key F3 is pressed and the scope for the search is defined (see Figure 5).

LABLIB displays information about each teaching material satisfying the searching

Figure 2. The flow of control in the LABLIB program. The program is entered and exited from the top. The arrows describe the flow of control from one state to another. The labels beside the arrows describe the action needed to change the state. "Select" means selection from the menu and F3, F9 and F10 mean pressing the corresponding function key.



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condition (see Figure 6). Bibliographic information is displayed when function key F6 is pressed (see Figure 7). The features are divided into two screens, since all the features do not fit onto the screen at the same time.

The next teaching material which meets the searching condition is displayed when function key F3 is pressed. If all the materials are already displayed, LABLIB informs the user. By pressing F4, previous displayed teaching material is shown.

The characteristics of currently displayed material can be printed by pressing the function key F10. The user can select the printing of some features of the material or the printing of label for a cassette or for a cassette cover (see Figure 8). After that, the user defines where to print out i.e. which printer is to be used (see Figure 9).

## DESCRIPTION OF THE MAINTENANCE PROGRAM "EDIT"

The EDIT program is used for maintaining the LABLIB databases which means adding, modifying, deleting and sorting the teaching material information. Besides that, it can be used for searching for teaching materials in the same way as LABLIB with the exception that the search is carried out using all the characteristics, and the teaching materials found can be modified or deleted. The coded characteristics are handled using codes i.e. no explanations are displayed.

The EDIT program is divided into 8 states (see Figure 10). There is an "Action selection" state in addition to the LABLIB states. That state is used for the selection of the desired action, which consists of adding, searching for and sorting teaching materials (see Figure 11). If adding is selected an empty form is displayed into which the

*Figure 3. The selection of media group. The word "English" in the upper right corner of the menu reminds the user which language group has been selected.*

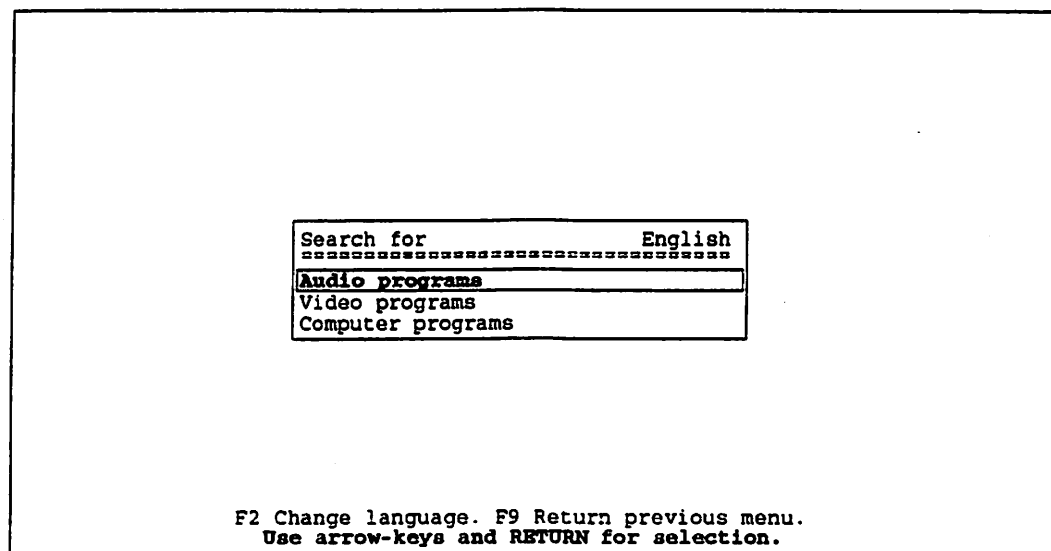


Figure 4. Defining the searching condition. In this example the user wants English audio tapes concerning cancer which are in listening comprehension -exercise form. The initial situation is given in a). The user defines "listening comprehension" by selecting "Exercise type" from the menu after which a submenu is displayed, see b). From the submenu the desired exercise type is selected, see c). After that, the user defines the key word "CANCER" to be searched from "Original language description," by selecting that item from the menu and by writing "CANCER," see d). The characterization of the teaching material is now complete, see e). (Notice that the subject "cancer" could be defined as well with UNESCO indices.)

Figure 4a.

You can search for audiotapes with the following.		English
=====		
Tape code	:	
Program name	:	
Variant	:	
Genre	:	
Exercise type	:	
Additional material:		
Grammar	:	
Level	:	
Unesco	:	
Communication event:		
Original language	:	
description		
Finnish description:		
Author / Publisher :		
Year of acquisition:		

F2 Change language. F3 Start search. F9 Return previous menu. DEL Delete value.  
Use arrow-keys and RETURN for selection.

Figure 4b.

You can search for audiotapes with the fo		Exercise type menu
=====		=====
Tape code	:	Drill
Program name	:	Listening comprehension
Variant	:	Note-taking
Genre	:	Transformation
Exercise type	:	Reading comprehension
Additional material:		Repetition
Grammar	:	Interprtation
Level	:	Recognition (sounds)
Unesco	:	Completion, dictation, writing
Communication event:		Oral production
Original language	:	Summary
description		Role-play
Finnish description:		Game
Author / Publisher :		
Year of acquisition:		

F9 No change.  
Use arrow-keys and RETURN for selection.

Figure 4c.

You can search for audiotapes with the following.		English
-----		
Tape code	:	
Program name	:	
Variant	:	
Genre	:	
Exercise type	:	Listening comprehension
Additional material:		
Grammar	:	
Level	:	
Unesco	:	
Communication event:		
Original language	:	
description		
Finnish description:		
Author / Publisher :		
Year of acquisition:		

F2 Change language. F3 Start search. F9 Return previous menu. DEL Delete value.  
Use arrow-keys and RETURN for selection.

Figure 4d.

You can search for audiotapes with the following.		English
-----		
Tape code	:	
Program name	:	
Variant	:	
Genre	:	
Exercise type	:	Listening comprehension
Additional material:		
Grammar	:	Type original language description keyword.
Level	:	
Unesco	:	You may give several keywords, separated by semicolon.
Communication event:		
Original language	:	
description		CANCER
Finnish description:		
Author / Publisher :		
Year of acquisition:		

F9 No change.  
Type string. Correct with DEL and accept with RETURN.



Figure 4e.

```

You can search for audiotapes with the following. English
=====
Tape code      :
Program name   :
Variant        :
Genre          :
Exercise type  :Listening comprehension
Additional material:
Grammar        :
Level          :
Unesco         :
Communication event:
Original language :CANCER
description
Finnish description:

Author / Publisher :
Year of acquisition:

F2 Change language. F3 Start search. F9 Return previous menu. DEL Delete value.
Use arrow-keys and RETURN for selection.
    
```

Figure 5. The definition of the searching type. The user defines whether units are included in the search or not. If the search is interrupted accidentally it may be continued by selecting "Continue last search" from this menu.

```

Search type menu
=====
Search programs and units
Search programs only
Continue last search

F2 Change language. F9 Return previous menu.
Use arrow-keys and RETURN for selection.
    
```

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*Figure 6. Display of the characteristics of the teaching material found. In the upper left-hand corner the order number of this material information and the number of teaching materials in the database are displayed.*

```
Record 1040 / 2270.
Program name      :MEDICALLY SPEAKING. ENGLISH FOR THE MEDICAL PROFESSION.
                  Tape code      :EN09011LAAK
Units             :10             Unit number      :3
Unit name        :BREAST CANCER
Variant         :British English

Genre            :Dialogue, discussion ; Interview
Grammar         :Verbs

Level           :Intermediate
Exercise type    :Listening comprehension ; Note-taking

Additional material:Books
Unesco          :F50/99 F55/73 F68.10

Communication event:A6 B1B6
Original language :THE PATIENT HAS A BREAST CANCER. MEDICINE. TUMOUR.
description

F2 Change language. F3 Next. F4 Previous. F6 Bibl.info. F9 Quit srch. F10 Print.
```

*Figure 7. Display of bibliographic information of the tape found. Pressing of function key F6 switches between the displays in Fig. 6 and in Fig. 7.*

```
Record 1040 / 2270.

Program name      :MEDICALLY SPEAKING. ENGLISH FOR THE MEDICAL PROFESSION.

Tape code        :EN09011LAAK
Units            :10
Unit number      :3
Unit name        :BREAST CANCER
Copies           :A2C M2C S2C K
Duration         :      min      sec
Author / publisher :SANDLER P. L.  BBC ENGLISH BY RADIO & TELEVISION
Year of publication:82
Year of acquisition:88

F2 Change language. F3 Next. F4 Previous. F6 Tape info. F9 Quit srch. F10 Print.
```

Figure 8. Selection of printing items. At the bottom of the display the characteristics to be printed are mentioned.

```

Record 1040 / 2270.
Program name      :MEDICALLY SPEAKING. ENGLISH FOR THE MEDICAL PROFESSION.
                  Tape code           :EN09011LÄÄK
Units             :10                  Unit number      :3
Unit name        :BREAST CANCER
Variant         :British English

Genre            :Dialogue, discussion ; Interview

Grammar         :Verbs

Level           :Interm Print
Exercise type   :Listen *****
Additional material:Books Short program info
                  Label for cassette
                  Label for cassettebox
Unesco         :F50/99 F55/73 F68.10

Communication event:A6 B1B6
Original language :THE PATIENT HAS A BREAST CANCER. MEDICINE. TUMOUR.
description

                F2 Change language. F9 Quit printing.
                Tape code, program name and original language description.
    
```

Figure 9. Definition of the printer. Printing is started by pressing the function key F10.

```

Record 1040 / 2270.
Program name      :MEDICALLY SPEAKING. ENGLISH FOR THE MEDICAL PROFESSION.
                  Tape code           :EN09011LÄÄK
Units             :10                  Unit number      :3
Unit name        :BREAST CANCER
Variant         :British English

Genre            :Dialogue, discussion ; Interview

Gram Define destination of printing Short program info
*****
Device :HPLAS2I.PR2
Level Port :PRN
Exer Paper ejection :AFTER
Left marginal :0
Addi Pitch :DEFAULT
Unes Code before job :
      Code after job :

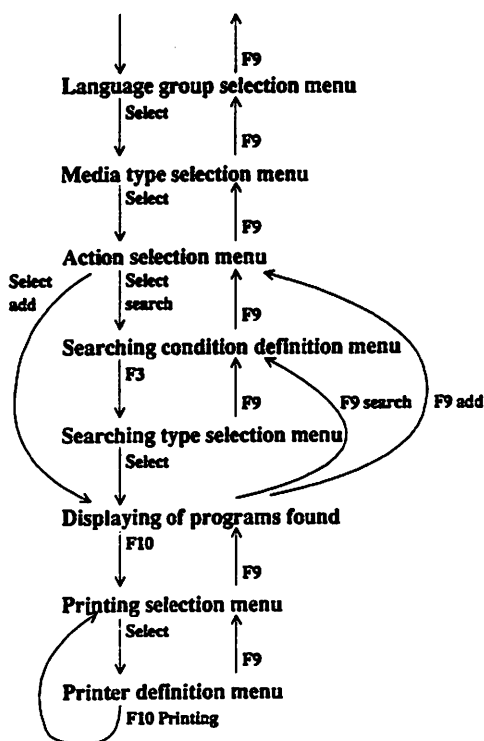
Communication event:A6 B1B6
Original language :THE PATIENT HAS A BREAST CANCER. MEDICINE. TUMOUR.
description

                F2 Change language. F9 Return previous menu. F10Start printing.
                Use arrow-keys and RETURN for selection.
    
```

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characteristics of the teaching material are filled (see Figure 12). By pressing the function key F3 the next empty form is displayed. By pressing the function key F4 the user may browse through earlier teaching materials (see Figure 13). With function key F6 the value of the characteristic is copied from previous displayed teaching material. This speeds up the typing of, for example, unit information in which at least the program name, tape code and publisher are the same.

Figure 10. The flow of control in the EDIT program.



By selecting search from the action selection menu, the user obtains a searching condition menu as in LABLIB (see Figure 14). This can be used when there are errors in teaching material information. The erroneous teaching material is found if the false value is defined in the searching condition menu or if the order number of the erroneous material is filled into "From record" field.

The sorting item in the action selection menu is used for sorting the teaching materials so that the latest material is found before the older ones. It also arranges the units in the right order. This action is used for keeping the information in proper order after changes have been made to the databases.

## CONCLUDING REMARKS

The LABLIB system is in use in the Language Centre of the University of Turku and in some other universities in Finland. In the Turku system there is information from over 2,000 English audio tapes. The system is configured to a microcomputer connected to the LAN spread all over the University campus area enabling the use of LABLIB from any microcomputer connected to the LAN.

The time needed for searching depends on the number of concurrent users of LABLIB and the load in the network. Normally the first material is found in under 10 seconds and for an unsuccessful search in which nothing is found the response comes in at about 20 seconds.

The Department of Chemistry in University of Turku is also interested in LABLIB. They need a system to maintain information concerning the liquids they have in the laboratory. The liquids can be classified into several groups according to toxin, etc. We believe that LABLIB can easily fit their requirements by changing the texts in

Figure 11. Selecting action in the EDIT program.

Action menu  
 =====  
**Add new records**  
 Modify records  
 Sort records

F2 Change language. F9 Return previous menu.  
 Use arrow-keys and RETURN for selection.

Figure 12. The form into which the features of the teaching material are filled.

Tape code		Record 2271/ 2271.
Program name		
Units		Unit number
Unit name		
Variant		Genre
Grammar		Level
Exercise type		Additional material
Unesco		
Communication event		
Copies		Duration
Author / publisher		
Year of publication		Year of acquisition:
Original language		
description		
Finnish description:		

F2 Change language. F3 Next. F4 Previous. F5 Empty field. F6 Copy from previous.  
 F7 Delete. F8 original field. F9 Quit. F10 Print.

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Figure 13. The characteristics of the previous teaching material. It is possible to modify the characteristics by writing new values.

Tape code	: EN03072AAK	Record 2270 / 2271.
Program name	: CANCER ON THE DECLINE BBC SC MAG. 27/83	
Units	: [ ]	Unit number [ ]
Unit name	: [ ]	
Variant	: [AR]	Genre [R]
Grammar	: [ ]	Level [32]
Exercise type	: [R]	Additional material [D]
Unesco	: F12.10 F25.30 F50/99 F51 F54.10 F56/73 F55/73 F62.10 R73.80	
Communication event:	[ ]	
Copies	: A M1 SIC K	Duration [ 932 ]
Author / publisher	: BBC KKKK	
Year of publication:	[83]	Year of acquisition: [83]
Original language description	: ACCORDING TO DR BARBARA HILKA THERE HAS BEEN A DECREASE IN INCIDENCE AND MORTALITY OF MOST CANCERS THAT ARE NOT SMOKING ASSOCIATED. HIGH FAT DIET & CANCER A, C AND E. VITAMINS VS. CANCER.	
Finnish description:	: JOHTORI BARBARA HILKAN MUKAAN LAHES KAIKKI MUUT PAITOT TIIPAROINNISTA AITEUTINAT SYOPALAITT OVRT VAHENTYMÄSSÄ. RASVAEITOISEN RIIKKAVALTION YHTEYS SYÖPÄÄN A- C- JA E- VITAMIINIT SYÖVÄN EHKÄISYSSÄ.	

F2 Change language. F3 Next. F4 Previous. F5 Empty field. F6 Copy from previous. F7 Delete. F8 original field. F9 Quit. F10 Print.

Figure 14. Definition of searching condition in the EDIT program.

You can search for audiotapes with the following.		English
=====		
From record	:	
Tape code	:	
Program name	:	
Units	:	
Unit number	:	
Unit name	:	
Variant	:	
Genre	:	
Grammar	:	
Level	:	
Exercise type	:	
Additional material:	:	
Unesco	:	
Communication event:	:	
Copies	:	
Duration	:	
Author / publisher	:	
Year of publication:	:	
Year of acquisition:	:	

F2 Change language. F3 Start search. F9 Return previous menu. DEL Delete value. Use arrow-keys and RETURN for selection.

the system. Also the Department of Cultural History needs a system for maintaining their samples.

Nowadays the dBASE IV system would not most probably be the best selection for a user-friendly database system like this. The Windows systems include good features in user-interface, which would be most suitable for LABLIB. The development of LABLIB should continue with Windows.

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# THE UNIVERSITY OF KANSAS



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**A** visit to the University of Kansas is pleasant any time of year. But its gently rolling hills, abundant flowers, shrubs and manicured lawns make it especially pleasing during the spring and summer months.

The campus is located atop Mount Oread, also called the Hill, a tree-covered overlook studded by limestone buildings with red-tiled roofs. Although the distinctive university skyline can be seen for miles, the University of Kansas is regarded by some as one of the nation's best kept secrets.

The main campus of 26,436 students is located in Lawrence, a growing community that has retained its small-town character. The city offers eclectic boutique shopping in an historic downtown and a variety of restaurants and entertainment.

The Watkins Community Museum is one of 17 city structures on the National Historic Register. A restored 19th Century opera house is another downtown landmark.

Back on the Hill, the Museum of Natural History is ranked as one of the top tourist attractions in the state. KU's Spencer Museum of Art is unsurpassed as a university art museum. It houses a 21,000 piece collection and art library. The university schedules outstanding offerings of music, theatre and dance. In intercollegiate athletics, the Kansas Jayhawks compete in the Big-Eight Conference.

Membership in the prestigious Association of American Universities provides national recognition for the breadth and quality of research and teaching at the University of Kansas. KU is 15th among public universities in

number of freshmen National Merit scholars enrolled in fall 1989, the most recent year for which figures are available.

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Convinced you should see KU? Plan to attend the 1993 meeting of the International Association for Learning Laboratories. Discover the University of Kansas for yourself!