

**DEVELOPMENT OF A COMPUTER BASED
TRANSLATOR PHASE - II**

By
LOUCA PETROS

Project Report

Submitted to

**the Department of Electrical Engineering
of the Higher Technical Institute
Nicosia Cyprus**

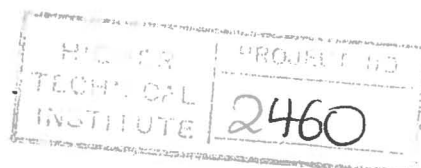
**in partial fulfillment of the requirements
for the diploma of**

TECHNICIAN ENGINEER

IN

ELECTRICAL ENGINEERING

JUNE 1995



Contents

	PAGE
<u>INTRODUCTION</u>	1
<u>CHAPTER 1</u> DESCRIPTION OF THE ELECTRONIC	
TRANSLATOR	3
1.1 INTRODUCTION.....	4
1.2 MAIN SCREEN.....	5
1.2.1 SEARCHING OF A WORD.....	5
1.2.2 AUTOMATIC AND MANUAL SEARCHING OF	
WORDS.....	6
1.2.3 PRINTING OF WORDS SPECIFIED BY THE USER	
(START AND STOP OF WATCHING OF WORDS)....	7
1.2.4 SWAP BETWEEN NORMAL AND PERSONAL	
VOCABULARY.....	7
1.2.5 EXITING FROM THE PROGRAM.....	7
1.3 MAIN MENU.....	7
1.3.1 ADDITION OF A NEW WORD.....	8
1.3.2 CORRECTION AND ERASURE OF A	
WORD ALREADY STORED.....	9
1.3.3 PRINTING OF THE DICTIONARY.....	9
1.3.4 CHANGING THE PASSWORD FOR THE	
PERSONAL VOCABULARY.....	10
1.4 LANGUAGE , WORDS , PRINTING	
AND REQUIREMENTS OF THE PROGRAM.....	10
1.4.1 LANGUAGE.....	10
1.4.2 NUMBER OF WORDS.....	11
1.4.3 PRINTING OF WORDS.....	11
1.4.4 REQUIREMENTS OF THE PROGRAM.....	11

1.4.5	OTHER RELEVANT INFORMATION.....	11
1.5	CONCLUSIONS	12

CHAPTER 2

	HOW TO USE THE ELECTRONIC DICTIONARY (USER OPTIONS).....	13
2.1	INTRODUCTION.....	14
2.2	INSTALLATION TO A HARD DISK AND HOW TO GET THE PROGRAM RUN.....	14
2.2.1	STARTING UP THE COMPUTER SYSTEM.....	15
2.2.2	INSTALLATION TO A HARD DISK.....	15
2.2.3	HOW TO EXECUTE THE ELECTRONIC DICTIONARY PROGRAM	15
2.3	MAIN SCREEN AND ITS OPTIONS.....	16
2.3.1	PROCEDURE FOR SEARCHING A WORD.....	16
2.3.2	PROCEDURE FOR CHANGING THE LANGUAGE... ' 17	
2.3.3	PROCEDURE FOR THE AUTOMATIC AND MANUAL SEARCHING OF WORDS.....	17
2.3.4	PROCEDURE FOR THE START AND STOP OF THE WATCH FOR THE PRINTING OF WORDS.....	19
2.3.5	PROCEDURE FOR SWAPPING BETWEEN NORMAL AND PERSONAL VOCABULARY.....	19
2.3.6	HOW TO ENTER IN MAIN MENU.....	20
2.4	MAIN MENU AND ITS OPTIONS.....	20
2.4.1	PROCEDURE FOR THE ADDITION OF A NEW WORD.....	21
2.4.2	PROCEDURE FOR THE CORRECTION AND ERASURE OF AN ALREADY SAVED WORD.....	22
2.4.3	PROCEDURE FOR PRINTING THE CONTENTS OF THE DICTIONARY.....	23
2.4.4	CHANGING THE USER'S NAME AND PASSWORD FOR THE PERSONAL VOCABULARY.....	24

2.4.5	HOW TO GO BACK TO THE MAIN MENU AND HOW TO LEAVE FROM THE PROGRAM.....	25
2.5	CONCLUSIONS.....	25

CHAPTER 3

	DESCRIPTION OF THE PROGRAM (SUBROUTINES AND FUNCTIONS).....	26
3.1	INTRODUCTION.....	27
3.1.1	MAIN PROGRAM.....	27
3.2	SUBROUTINES.....	27
3.2.1	SUBROUTINE ADD.WORD.MENU.....	28
3.2.2	SUBROUTINE CHANGE.LANGUAGE.....	28
3.2.3	SUBROUTINE CHANGE.PASSWORD.....	28
3.2.4	SUBROUTINE CLEAR.FIELD.....	28
3.2.5	SUBROUTINE CLEAR.WINDOW.....	29
3.2.6	SUBROUTINE EDIT.DELETE.WORD.....	29
3.2.7	SUBROUTINE EXIT.PROGRAM.....	29
3.2.8	SUBROUTINE FIND.MATCHING.....	30
3.2.9	SUBROUTINE GET.DATA.....	30
3.2.10	SUBROUTINE MAIN.MENU.....	30
3.2.11	SUBROUTINE PATHCHANGE.....	30
3.2.12	SUBROUTINE PRINT.LANGUAGE.....	31
3.2.13	SUBROUTINE PRINT.WORDS.....	31
3.2.14	SUBROUTINE REPLACEWORD.....	31
3.2.15	SUBROUTINE RESET.SCREEN.....	32
3.2.16	SUBROUTINE SAVE.DATA.....	32
3.2.17	SUBROUTINE SEARCH.AND.DISPLAY.....	33
3.2.18	SUBROUTINE SHOW.TITLE1.....	33
3.2.19	SUBROUTINE SHOW.TITLE2.....	33
3.2.20	SUBROUTINE START.WATCHING.....	34
3.2.21	SUBROUTINE STOP.WATCHING.....	34
3.2.22	SUBROUTINE UPDATE.WATCHES.....	34

3.2.23	SUBROUTINE WRITE.INFO.....	34
3.2.24	SUBROUTINE WRITE.LIST.....	34
3.3	FUNCTIONS.....	35
3.3.1	FUNCTION DELETE.RIGHT.....	35
3.3.2	FUNCTION FILENAME.....	35
3.3.3	FUNCTION GET.WORD.....	35
3.3.4-5	FUNCTIONS GETENGLISHWORD AND GETGREEKWORD.....	36
3.3.6-7	FUNCTIONS SMALLENGLISH AND SMALLGREEK.....	36
3.4	CONCLUSIONS.....	36
<u>CHAPTER 4</u>	DISPLAY OF CHARACTERS.....	38
4.1	INTRODUCTION.....	39
4.2	THE TSR PROGRAM (DOS ENVIRONMENT).....	39
4.2.1	LOADING THE PROGRAM.....	39
4.2.2	WHAT THE PROGRAM DOES.....	39
4.3	DISPLAYING CHARACTERS UNDER WINDOWS ENVIRONMENT.....	40
4.4	USE OF THE PROGRAM FOR OTHER THAN THE GREEK LANGUAGE.....	41
4.4.1	CHANGES IN THE TSR PROGRAM.....	41
4.4.2	STATEMENTS TO BE CHANGED IN THE DICTIONARY PROGRAM.....	41
4.4.2.1	SUBROUTINE EXIT.PROGRAM.....	42
4.4.2.2	SUBROUTINE PRINT.WORDS.....	43
4.4.2.3	FUNCTION FILENAME.....	44
4.4.2.4	FUNCTION GET.WORD.....	44
4.4.2.5	FUNCTIONS SMALLENGLISH AND SMALLGREEK.....	40

3.2.23	SUBROUTINE WRITE.INFO.....	34
3.2.24	SUBROUTINE WRITE.LIST.....	34
3.3	FUNCTIONS.....	35
3.3.1	FUNCTION DELETE.RIGHT.....	35
3.3.2	FUNCTION FILENAME.....	35
3.3.3	FUNCTION GET.WORD.....	35
3.3.4-5	FUNCTIONS GETENGLISHWORD AND GETGREEKWORD.....	36
3.3.6-7	FUNCTIONS SMALLENGLISH AND SMALLGREEK.....	36
3.4	CONCLUSIONS.....	36
<u>CHAPTER 4</u>	DISPLAY OF CHARACTERS.....	38
4.1	INTRODUCTION.....	39
4.2	THE TSR PROGRAM (DOS ENVIRONMENT).....	39
4.2.1	LOADING THE PROGRAM.....	39
4.2.2	WHAT THE PROGRAM DOES.....	39
4.3	DISPLAYING CHARACTERS UNDER WINDOWS ENVIRONMENT.....	40
4.4	USE OF THE PROGRAM FOR OTHER THAN THE GREEK LANGUAGE.....	41
4.4.1	CHANGES IN THE TSR PROGRAM.....	41
4.4.2	STATEMENTS TO BE CHANGED IN THE DICTIONARY PROGRAM.....	41
4.4.2.1	SUBROUTINE EXIT.PROGRAM.....	42
4.4.2.2	SUBROUTINE PRINT.WORDS.....	43
4.4.2.3	FUNCTION FILENAME.....	44
4.4.2.4	FUNCTION GET.WORD.....	44
4.4.2.5	FUNCTIONS SMALLENGLISH AND SMALLGREEK.....	40

4.5	CONCLUSIONS.....	45
<u>CHAPTER 5</u>	PRINTING.....	46
5.1	INTRODUCTION.....	47
5.2	PRINTING CHARACTERS OTHER THAN THE ENGLISH UNDER DOS ENVIRONMENT.....	47
5.3	PRINTING CHARACTERS OTHER THAN THE ENGLISH UNDER WINDOWS ENVIRONMENT.....	48
5.4	TEST CONCLUSIONS AND LIMITATIONS OF THE PROGRAM.....	48
5.5	CONCLUSIONS.....	49
	<u>CONCLUSIONS</u>	50
	<u>APPENDICES</u>	51
	<u>APPENDIX 1 : FIGURES AND FLOWCHARTS</u>	52
	<u>APPENDIX 2 : LISTING OF THE ELECTRONIC DICTIONARY PROGRAM</u>	69
	<u>BIBLIOGRAPHY</u>	102

Acknowledgment

I would like to thank my project supervisor Dr. Marios Kassinopoulos, lecturer in the electrical department of the Higher Technical Institute, for his guidance throughout the project.

I would also like to thank Mr. Pantelis Makris, teacher of computer science in the school of the deaf in Nicosia for his advises about the program.

Finally, I would like to thank Mr. Michael Kyriakos, student in the Computer Science department of the H.T.I. for his help in the creation of the program.

Introduction

The general idea of the project was the Development of a computer based translator-Phase II. By saying computer based translator it is meant that a program is required to be created so as to translate words from one language to another. Specifically the main objective of the program is to translate words from English to Greek and vice-versa. Also to be able to give the synonym or a small phrase in Greek as an explanation of a Greek word i.e. Greek to Greek dictionary.

The program offers also the facility of adding a new word and correct or erase an already stored word in any of the three dictionaries. In addition to these the program is able to print a specific number of words with their translation as requested by the user and also, as another option, to print the whole vocabulary of each of the dictionaries already stored.

In addition to the above requirements, each dictionary should have its own directory and according to the first letter of the word, the word should be saved in the file where the first letter alphabetically belongs i.e. the words are classified in files in each of the directories according to their first letter. Also another objective is the program to be able to use in addition to the normal vocabulary, which is the one given with the program and another vocabulary, which is the one created by the user, i.e. a personal vocabulary, containing only the words added by the user. This option was required by Mr. Pantelis Makris, teacher in the school of deaf for his students so as each student to have his/hers own vocabulary.

The program was designed so as the user to work basically in two screens : the main screen where the user may enter the word to be translated or a few letters and the program searches for the translation giving a word or a group of words respectively and the Main Menu where the user may choose to add a new word, correct or erase an existing word, print a vocabulary and change the password of the personal vocabulary.

In the following chapters the function and the use of the **Electronic Dictionary** are going to be explained in detail as well as how the program itself works so as to achieve the objectives and the requirements of the project.