

COMPUTERIZATION OF A CIVIL DEFENCE REGIONAL UNIT

Project report submitted by:

LOIZOU ELENI

OMBASHI MARIA

In part satisfaction of the award
of Diploma in Computer Studies
of the
Higher Technical Institute, Cyprus

Project Number : CS/018

Project Supervisor: Miss Maria Tsinda,
Lecturer in the Computer
Studies Department, HTI
BSc, MCs in Computer
Studies.

External Assessor: Miss D. Karmiotou,
Programmer/Analyst
office Automation - Bank
of Cyprus Department.
BSc in Computer Studies.

June 1989.



COMPUTERIZATION OF A CIVIL DEFENCE REGIONAL UNIT

SUMMARY

The project deals with the development of an information system, and specifically with the DEVELOPMENT OF CIVIL DEFENCE NICOSIA REGIONAL UNIT.

In order to provide the reader, with the necessary understanding, regarding the technique used in analyzing and developing an informational system, a brief description of this process is given at an initial stage.

An extensive description of each of the major steps that comprise this process is given in separate chapters and is documented through the use of different forms, data flows diagrams and narratives.

The objectives of the project are:

- . To develop a Civil Defence System to meet the Nicosia Regional Unit Requirements.
- . To provide an on-line facility for the personal data of the Civil Defence Serviceman/Service woman and for assisting Civil Defence daily work.
- . To provide all necessary reports on screen or printer according to the user's request.
- . To provide a variety of inquiries.

Table of Contents

1. CHAPTER 1

THE PROCESS OF SYSTEM ANALYSIS.....	1
1.1. PROCESS DESCRIPTION.....	1
1.2. SYSTEMS DEVELOPMENT LIFE CYCLE.....	2

2. CHAPTER 2

INITIAL INVESTIGATION PHASE.....	5
2.1. INTRODUCTION.....	5
2.2. ACTIVITY 1	
INITIAL INVESTIGATION.....	6
2.2.1. INTRODUCTION.....	6
2.2.2. INVESTIGATION REPORT FOR THE CIVIL DEFENCE ESTABLISHMENT.....	6
2.2.2.1. INTRODUCTION.....	6
2.2.2.2. DESCRIPTION OF THE EXISTING SYSTEM	7
2.2.2.3. DISADVANTAGES OF THE EXISTING SYSTEM.....	25
2.2.2.4. SOLUTIONS.....	28
2.2.2.5. CONCLUSION.....	28
2.2.2.6. RECOMENTATION.....	29
2.2.2.7. PRELIMINARY HARDWARE COST.....	30
2.3. ACTIVITY 2	
FEASIBILITY STUDY.....	31
2.3.1. FEASIBILITY REPORT FOR THE CIVIL DEFENCE ESTABLISHMENT.....	32
2.3.1.1. INTRODUCTION.....	32
2.3.1.2. EXISTING SYSTEM BRIEF DESCRIPTION	32
2.3.1.3. TECHNICAL FEASIBILITY.....	33
2.3.1.4. HUMAN FACTOR FEASIBILITY.....	34
2.3.1.5. SCHEDULE FEASIBILITY.....	34
2.3.1.6. OPERATIONAL FEASIBILITY.....	35
2.3.1.7. FINANCIAL FEASIBILITY.....	35
2.3.1.8. BENEFITS OF THE NEW SYSTEM.....	41
2.3.1.9. COST OF THE NEW SYSTEM.....	42

2.3.1.10. CONCLUSION.....	44
---------------------------	----

3. CHAPTER 3

ANALYSIS & GENERAL DESIGN PHASE.....	45
3.1. DESCRIPTION OF THE PHASE.....	45
3.2. ACTIVITY 3	
EXISTING SYSTEM REVIEW.....	46
3.2.1. ACTIVITY DESCRIPTION.....	46
3.2.2. REVIEW OF THE EXISTING CIVIL DEFENCE ESTABLISHMENT SYSTEM.....	47
3.2.2.1. PROCEDURES WITHIN THE ORGANIZATION.....	47
3.2.2.2. DATA FILES.....	49
3.2.2.3. CURRENT SYSTEM INPUTS.....	50
3.2.2.4. CURRENT SYSTEM OUTPUTS.....	51
3.3. ACTIVITY 4	
NEW SYSTEM REQUIREMENTS.....	51
3.3.1. ACTIVITY DESCRIPTION.....	51
3.3.2. USER SPECIFICATION DOCUMENT.....	52
3.3.2.1. OVERVIEW NARRATIVE.....	52
3.3.2.2. SYSTEM FUNCTION - (BLACK BOX)...	52
3.3.2.3. PROCESSING.....	53
3.3.2.4. OUTPUT FOR THE USERS.....	68
3.3.2.5. INPUTS TO THE SYSTEM.....	68
3.3.2.6. USER INTERFACES WITH THE SYSTEM.	68
3.3.2.7. CONCLUSION.....	68
3.4. ACTIVITY 5	
NEW SYSTEM DESIGN.....	69
3.4.1. NEW SYSTEM DESIGN SPECIFICATION DOCUMENT.	69
3.4.1.1. PROCESSING.....	70
3.4.1.2. INPUTS TO THE SYSTEM.....	70
3.4.1.3. OUTPUTS TO THE USERS.....	70
3.4.1.4. DATA FILES.....	81
3.4.1.5. HARDWARE REQUIREMENTS.....	84
3.5. ACTIVITY 6	
IMPLEMENTATION AND INSTALLATION PLANNING.....	85

3.5.1. ACTIVITY DESCRIPTION.....	85
3.5.2. PRELIMINARY DESIGN & IMPLEMENTATION PLANNING.....	85
3.5.3. PRELIMINARY SYSTEM TEST PLAN.....	86
3.5.4. USER TRAINING OUTLINE.....	89
3.5.5. PRELIMINARY INSTALLATION PLAN.....	89

4. CHAPTER 4

DETAIL DESIGN AND INSTALLATION PHASE.....	91
4.1. PHASE DESCRIPTION.....	91
4.2. ACTIVITY 7 TECHNICAL DESIGN.....	91
4.2.1. DETAIL DESIGN SPECIFICATION DOCUMENT.....	92
4.2.1.1. HUMAN MACHINE INTERFACE DESIGN..	92
4.2.1.2. FILE DESIGN.....	94
4.2.1.3. APPLICATION S/W DESIGN.....	94
4.3. ACTIVITY 8. TEST SPECIFICATION AND PLANNING.....	114
4.4. ACTIVITY 9. PROGRAMMING AND TESTING.....	115
4.5. ACTIVITY 10 USER TRAINING.....	116
4.5.1. ACTIVITY DESCRIPTION.....	116
4.5.2. TRAINING FOR THE USERS OF THE CIVIL DEFENCE ESTABLISHMENT SYSTEM.....	116
4.6. ACTIVITY 11. SYSTEM TEST.....	117

5. CHAPTER 5.

POST IMPLEMENTATION SUGGESTIONS.....	118
5.1. GENERAL REVIEW OF THE NEW SYSTEM.....	118
5.2. FUTURE ENHACEMENTS ON THE SYSTEM.....	119
5.2.1. INTERFACE WITH THE COMPUTERIZED SERVICES OF ELECTION AND REGISTRATION.....	119
5.2.2. WORK UNDER MULTI-USER SYSTEM.....	119

APPENDIX

DATA DICTIONARY

1. DATA STRUCTURES
2. DATA STORES
3. DATA ELEMENTS
4. INPUT DOCUMENTATION
5. OUTPUT DOCUMENTATION

GLOSSARY

REFERENCE BOOKS