

HIGHER TECHNICAL INSTITUTE

COURSE IN COMPUTER STUDIES

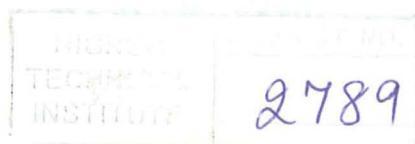
DIPLOMA PROJECT

**HOSPITAL INFORMATION SYSTEM
OF THE CYPRUS INSTITUTE OF
NEUROLOGY AND GENETICS (CING)**

CS/195

**DEMETRA POLYKARPOU
KALLIOPI SYMEOU**

17 JUNE 1998



SUMMARY

The original proposal issued by the Computer Studies Department of the Higher Technical Institute, in partial fulfillment of the requirements of the award of the Diploma in Computer Studies concerns the development of an Administration and a Stock Control System for the CING (The Cyprus Institute of Neurology and Genetics).

The main purpose of this project is to provide the administration clerks and the store controllers of the CING with an integrated system to handle all the patients that visit the CING in order to be serviced and handle all the items bought by the Institute and distributed to the departments.

It is now believed that with this package, the proper performance of the Administration and the Stock Control Departments will be accomplished.

John D. Kotsopoulos
President of the Cyprus Institute

CONTENTS

ACKNOWLEDGEMENTS

SUMMARY

INTRODUCTION

CHAPTER 1 – INVESTIGATION PHASE

1.1 INITIAL INVESTIGATION ACTIVITY.....	1
1.1.1 INFORMATION ABOUT THE ORGANIZATION.....	1
1.1.1.1 General Information about the Cyprus Institute of Neurology and Genetics.....	1
1.1.1.2 Goals of the CING.....	2
1.1.1.3 Organizational Structure.....	3
1.1.1.4 Policies.....	4
1.1.2 INFORMATION ABOUT THE WORK.....	12
1.1.2.1 Description of Existing Procedures.....	12
1.1.2.2 Problems with the Existing System.....	15
1.1.3 INFORMATION ABOUT THE PEOPLE.....	18

1.1.3.1 Employees.....	18
1.1.3.2 Organizational Structure.....	18
1.1.3.3 Duties of Employees.....	19
1.1.3.4 Relationships Among Employees.....	21
1.1.3.5 Information Needs.....	21
1.1.3.6 Information Gathering Methods.....	22
1.1.3.6.1 Interviews.....	22
1.1.3.6.2 Observations.....	24
1.1.4 INFORMATION ABOUT THE WORK.....	25
1.1.4.1 Tasks and work flows.....	25
1.1.4.2 General Information of Current System.....	26
1.1.4.3 Work Schedules and Volumes.....	26
1.1.4.4 Performance Criteria.....	27
1.1.4.5 Control Mechanism.....	28
1.1.5 INFORMATION ABOUT THE ENVIRONMENT.....	29
1.1.5.1 Location.....	29
1.1.5.2 Physical Movement of Input and Output.....	29
1.1.5.3 Resources Available.....	30
1.2 FEASIBILITY STUDY.....	32
INTRODUCTION.....	32
RECOMMENDATIONS.....	32
1.2.1 OPERATIONAL FEASIBILITY.....	34
1.2.2 FINANCIAL FEASIBILITY.....	35
1.2.3 TECHNICAL FEASIBILITY.....	35
1.2.4 HUMAN FACTOR FEASIBILITY.....	36
1.2.5 SCHEDULE FEASIBILITY.....	36

CHAPTER 2 – ANALYSIS AND GENERAL DESIGN PHASE

2.1 EXISTING SYSTEM REVIEW.....	37
2.2 NEW SYSTEM REQUIREMENTS.....	44
2.2.1 OVERVIEW NARRATIVE.....	44
2.2.2 PROCESSING.....	45
2.2.3 DATA DICTIONARY.....	45
2.2.4 PROCESS DESCRIPTIONS.....	46
2.2.5 INPUTS TO THE SYSTEM.....	46
2.2.6 OUTPUTS TO THE USERS.....	46
2.2.7 USER INTERFACES WITH THE SYSTEM.....	47
2.3 NEW SYSTEM DESIGN.....	48
2.3.1 NEW SYSTEM DESIGN SPECIFICATION DOCUMENT.....	48
2.3.1.1 Data Files.....	48
2.3.1.2 Performance Criteria.....	54
2.3.1.3 Security and Control.....	54
2.3.2 PACKAGED APPLICATION SOFTWARE RECOMMENDATION.....	56
2.3.3 TECHNICAL SUPPORT SPECIFICATION.....	56
2.4 PRELIMINARY INSTALLATION PLAN.....	57
2.5 CONCLUSIONS.....	57

CHAPTER 3 – DETAILED DESIGN AND IMPLEMENTATION PHASE

3.1 TECHNICAL DESIGN.....	58
3.1.1 DETAILED DESIGN SPECIFICATION DOCUMENT...	58
3.1.1.1 Backup Requirements and Recovery Procedures.....	58
3.1.1.2 User Interfaces with the System.....	59
3.1.2 COMPUTER OPERATIONS DOCUMENTATION.....	59
3.2 TEST SPECIFICATIONS AND PLANNING.....	60
3.2.1 TEST PLAN.....	60
3.3 PROGRAMMING AND TESTING.....	62
3.3.1 THE PROCESS OF PROGRAMMING AND TESTING...	62
3.4 USER TRAINING.....	63
3.4.1 USER TRAINING DESCRIPTION.....	63
3.4.2 USER MANUAL.....	63
3.5 SYSTEM TEST.....	64
3.5.1 COMPLETE SYSTEM TEST.....	64
3.6 CONCLUSIONS.....	65

CHAPTER 4 – INSTALLATION PHASE

4.1 ACTIVITY DESCRIPTION.....	66
4.2 SYSTEM INSTALLATION.....	67
4.1.1 INSTALLATION METHOD.....	67
4.3 CONCLUSIONS.....	68

CHAPTER 5 – REVIEW

5.1 DEVELOPMENT RECAP.....	69
5.1.1 ACTIVITY DESCRIPTION.....	69
5.2 POST-IMPLEMENTATION REVIEW.....	70
5.2.1 ACTIVITY DESCRIPTION.....	70
5.2.2 POST-IMPLEMENTATION REPORT.....	70
5.2.2.1 Evaluation of the extend to which the original requirements and objectives are being met by the installed systems.....	70
5.2.2.2 Comparison of developmental and operation costs with original costs estimates.....	70
5.2.2.3 Comparison of the originally projected benefits with the benefits actually realized.....	71
5.3 CONCLUSIONS.....	72

APPENDICES

APPENDIX A

Organizational charts and information selected from the CING.

APPENDIX B

Gantt Chart

APPENDIX C

Purchase Requisition form, Store Issue Voucher, Invoice,
Purchase Order

APPENDIX D

Service Forms

APPENDIX E

Price List

APPENDIX F

Existing Systems Reports and Screens

APPENDIX G

Policies

APPENDIX H

Interviews

APPENDIX I

Context Diagrams

APPENDIX J

Data Flow Diagrams

APPENDIX K

Data Dictionary

APPENDIX L

Inputs to the system

APPENDIX M

Outputs for the users