

HIGHER TECHNICAL INSTITUTE  
COMPUTER STUDIES DEPARTMENT  
DIPLOMA PROJECT

SOFTWARE SYSTEM FOR THE LABORATORIES OF THE CS  
DEPARTMENT OF HTI

CS/248

Designed By:

GEORGE PAPAGEORGIU

JUNE 2000

HIGHER TECHNICAL INSTITUTE	PROJECT NO. 3113
----------------------------------	---------------------

## INTRODUCTION

The goal of this project is to develop a computerized system that will help the laboratory assistants of the Computer (General) Studies Department of the HTI, organize and handle effectively all the hardware and software parts of the Department's laboratories, through the use of databases. The system that is going to be developed based on this project, will contain, apart from the databases,

- a lending system informing the assistants with details about the students that have borrowed something from the laboratories
- a detailed inventory logging facility
- a time-table generation application based on which the assistants will allocate their time to the various contact periods
- a report-generating application
- backup and recovery procedures and so on.

The system will be installed on the existing network system of the department, and it will operate independently, allowing multiple-user access and providing each user with a different level of security according to his position.

The report, that follows the Standard System Development Life Cycle methodology, is used to demonstrate and analyze the various activities being concerned with the current project. The project is divided into five chapters, each one of the first four representing a phase, and the last one including conclusion remarks. More specifically Chapter 1 includes the Investigation Phase, Chapter 2 includes the Analysis and General Design Phase, Chapter 3 is concerned with the Detailed Design and

Implementation Phase and Chapter 4 includes the Installation Phase. Finally, Chapter 5 is just a conclusion chapter.

At the end of the report, all the appendices used are included involving each phase individually. Some of the appendices included involve findings from my investigation, data flow diagrams, data dictionary, input rough sketches, data stores, processes, data structures etc.

## TABLE OF CONTENTS

Acknowledgement	1
Introduction	2
<b>1. Chapter 1 - Investigation Phase</b>	<b>4</b>
1.1 Initial Investigation	4
1.2 Feasibility Study	9
<b>2. Chapter 2 - Analysis and General Design Phase</b>	<b>15</b>
2.1 Existing System Review	15
2.2 New System Requirements	18
2.3 New System Design	22
2.4 Implementation and Installation	27
<b>3. Chapter 3 - Detailed Design and Implementation Phase</b>	<b>31</b>
3.1 Technical Design	31
3.2 Test Specification and Planning	40
3.3 Programming and Testing	42
3.4 User Training	43
3.5 System Testing	44
<b>4. Chapter 4 - Installation Phase</b>	<b>45</b>
4.1 File Conversion	45
4.2 System Installation	46
<b>5. Chapter 5 - Conclusion</b>	<b>47</b>

## **6. Appendices**

Appendix A - Diagrams Dictionary

Appendix B - Data Dictionary

Appendix C - Processes

Appendix D - Input / Output Forms