

TABLE OF CONTENTS

Dedication	I
Acknowledgement.....	II
Table of contents.....	III
Abstract.....	V
ملخص	VI
.....	

CHAPTER ONE

INTRODUCTION

1.1 General View.....	1
1.1.2 The objectives of this study.....	1
1.1.3 Virtual memory general concept.....	2
1.1.4 Swapping.....	2
1.1.5 Demand paging.....	3
1.1.6 Benefits of virtual memory.....	3
1.1.7 Operating system really does.....	5
1.2 Reviews.....	6
1.3 Thesis layout	7

CHAPTER TWO

MEMORY MANAGEMENT AND VIRTUAL MEMORY

2.1 Introduction.....	8
2.2 Partitioning.....	8
2.3 Segmentation.....	9
2.4 Paging.....	10
2.5 Segmentation with paging: The Intel Pentium	13
2.6 Convert the logical address to physical address.....	16
2.7 Swapping process.....	18
2.8 Demand Paging	20
2.9 Performance of demand paging.....	23
2.10 Page Replacement	25
2.10 .1Page Replacement Algorithm.....	25
2.10.2 Evaluation of page Replacement Algorithm	26
2.11 Page Replacement Techniques.....	27
2.12 LRU Replacement.....	29

CHAPTER Three

VIRTUAL MEMORY STRUCTURE

3.1 Memory Management Unit (MMU).....	32
3.2 Page Table.....	33
3.3 Structure of Page Table.....	35

3.4 Translation Look A head Buffer (TLB).....	36
3.5 Implementing Virtual Memory.....	38
3.6 Virtual Memory Operation.....	39

CHAPTER FOUR

SIMULATION AND RESULTS

4.1 Software design.....	43
The components of the program.....	43
Flow chart.....	46
4.2 Simulation Results.....	56

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion.....	65
5.2 Recommendations.....	65
References.....	66