

HIGHER TECHNICAL INSTITUTE

MECHANICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

**COMPUTER AIDED ANALYSIS OF SIMPLE
MECHANISMS**

by

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SIMPLE MECHANISMS

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*I feel the necessity to dedicate this trial
to my parents who dint deny to sacrifice
anything for the seek of my studies*

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INTRODUCTION

The introduction of this work is rather philosophical than an engineered text or computer programming text. It briefly explains how the approach to the project had been done and gives an overview of what will be followed.

Adopting the idea that when solving a problem (or defining a statement or studying etc.) start from the general statements and then proceed to the specific areas, had guided me to play a double role. That of the mechanical engineer and that of the programmer.

Taking the part of the mechanical engineer is the man/woman that will be the final user of what the programmer will produce. He/she either be familiar or not with computers.

The mechanical engineer has in mind what a mechanism is and how to do the calculations as far as the linkage concern. Very general a mechanical engineer knows what a mechanism is and even better what is simple mechanism and he /she is called to carry out some calculations for it (Either for synthesising or analysing).

Moving to the programmer's point of view the below parallelism can be done. In this case the programmer can be thought as the businessman that must study the market to find a need. For the purpose of this project need can be considered the title of the project and what the program is expected to do are the parameters that will define the success of the product in the market.

After the research mentioned above, the programmer must know the theory behind and the equations governing the simple mechanisms (acceleration, velocity, position). Here is where engineering perception interlinks with the programming perception.

Realising this general statement enforced me to organise the project in chapters as explained below.

CHAPTER 1: Is an independent chapter describing the world of mechanisms and their application and uses nowadays.

CHAPTER 2, 3, 4: Are being undertaken with the kinematic analysis of simple mechanisms. In chapter two initiation is done on how the approach of graphical synthesis is done.

Chapter 2: Position analysis.

Chapter 3: Velocity analysis. Chapter 4: Acceleration analysis.

CHAPTER 5: Starts with a synopsis of what had been predecessised in chapters 2, 3, 4 and explains the connection with a computer language. Note that in this chapter an introduction Visual Basic is done.

CHAPTER 6: Gives an overall conclusion of the work and a suggestion for possiible future expansion of this program.

Finally, in loose notes the manual and coding of this pogram is presenting

CONTENTS

PAGE

CHAPTER 1

The world of mechanisms

1.1	Where can be found	1
1.2	Classification of mechanisms	2
1.3	The Concept of Degree of Freedom.....	3
1.4	Inversions	

CHAPTER 2

Position Analysis

2.1	Introduction	10
2.2	Synthesis	10
2.3	Graphical Dimensional Synthesis	11
2.4	Mathematical Treatment	17
2.4.1	Four Bar Linkage Pin Jointed	17
2.4.2	Four Bar Slider Crank	22
2.4.3	An inverted Slider Crank Inversion#3	24

CHAPTER 3

Velocity Analysis

3.1	Introduction	27
3.2	Mathematical Treatment	27
3.2.1	Four Bar Pin Jointed	27
3.2.2	Four Bar Slider Crank Mechanism	30
3.2.3	Four Bar Slider Crank Mechanism , Inversion#3	32
3.2.4	Velocity of any point on Linkage	34

CHAPTER 4

Acceleration Analysis

4.1	Introduction	36
4.2	The Concept of Acceleration	36
4.3	Mathematical Analysis	37

4.3.1 Four Bar Pin Jointed	38
4.3.2 Four Bar Slider Crank Mechanism	39
4.3.3 Four Bar Slider Crank Mechanism , Inversion#3	40
4.3.3.1 Coriolis Acceleration	40
4.3.3.2 Analysis	41
4.3.4 Acceleration Of any point on linkage	43

CHAPTER 5

5.1 Introduction	46
5.2 Some words on Visual Basic	46
5.3 Description of the program	47

CHAPTER 6

Conclusion And Suggestion	50
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APPENDIX

MATHEMATICS - MECHANICS REQUIRED PRIOR THE ANALYSIS