



KOLEJ UNIVERSITI TEKNIKAL KEBANGSAAN MALAYSIA

DESIGN AND MANUFACTURE OF A SPECTACLE

Thesis submitted in accordance with the requirements of the Kolej Universiti
Teknikal Kebangsaan Malaysia for the Degree of Bachelor of Engineering
(Honours) Manufacturing (Process)

By

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BORANG PENGESAHAN STATUS TESIS*

JUDUL: DESIGN AND MANUFACTURE OF A SPECTACLE

SESI PENGAJIAN : 2005

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This thesis submitted to the senate of KUTKM and has been accepted as fulfillment of the requirement for the degree of Bachelor of Engineering (Honours) Manufacturing (Process). The members of the supervisory committee are as follows:

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DECLARATION

I hereby, declare this thesis entitled “Design And Manufacture Of A Spectacle” is the results of my own research except as cited in the reference.

Signature : 
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Date : December 9, 2005

DEDICATION

I owe this project and my true happiness I feel today to my beloved parent. Since the day I started going to this university until today, they are very caring and supporting for me. **“I LOVE U MOM!!! DAD!!!”** Also to my love, Norfarahida Idris thanks for your support.

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ABSTRACT

In this thesis, the designer only designs the frame of a spectacle where the designer is improved it from the existing spectacle frames design. The designer has been distribute about 50 questionnaires in Melaka town and do the analysis from the existing product where from that method the designer can define what are the users problem in order to design the new concept of spectacle frame (combination casual and sporty). Based on that, the designer can come out with the product design specifications (PDS), conceptual designs, expanding ideas and the final design. Then the designer come out with an anthropometric data, draw the detail drawing, material selection, manufacturing process and costing of the spectacle frame design. Beside that the designer also fabricates the prototype in order to fulfill the design process.

ABSTRAK

Di dalam tesis ini, pereka bentuk hanya perlu mereka bentuk bingkai cermin mata di mana ianya adalah pembaharuan dari reka bentuk yang sedia ada di pasaran. Pereka bentuk telah menjalankan sebanyak 50 soal selidik dalam kawasan bandaraya Melaka dan juga telah melakukan analisis terhadap reka bentuk yang sedia ada di pasaran di mana dengan cara tersebut, pereka bentuk dapat mengenal pasti apa sebenarnya masalah yang dihadapi oleh pengguna bagi melaksanakan reka bentuk terbaru untuk bingkai cermin mata ini (kombinasi kasual dan bersukan). Berdasarkan maklumat yang diperolehi, pereka bentuk dapat menjalankan spesifikasi reka bentuk produk, konsep reka bentuk, pengembangan idea dan reka bentuk akhir. Kemudian pereka bentuk juga menjalankan antropometrik data, lukisan terperinci, pemilihan bahan, proses pembuatan dan kos bagi reka bentuk bingkai cermin mata tersebut. Selain itu pereka bentuk juga menghasilkan “prototype” bagi memenuhi proses reka bentuk.

TABLE OF CONTENTS

APPROVAL	i
DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
ABSTRAK	vi
TABLE OF CONTENTS	vii
LIST OF TABLES	xiv
LIST OF FIGURES	xvi
LIST OF ACRONYMS	xviii
LIST OF APPENDICES	xix
CHAPTER 1.0 : INTRODUCTION	1
1.1 SPECTACLE INTRODUCTION	1
1.2 OBJECTIVE	1
1.3 SCOPE	2
1.4 PROJECT FLOW CHART FOR FINAL YEAR PROJECT	3
1.4.1 Steps Of Project	5
1.4.2 Steps Of The Engineering Design Process	7
CHAPTER 2.0 :LITERATURE REVIEW	8
2.1 21 ST CENTURY SPECTACLES HISTORY	8
2.2 BASIC COMPONENT OF SPECTACLE FRAME	12
2.2.1 Nose Fitting	13
2.2.2 Closing Block	13
2.2.3 Hinges	14
2.2.4 Temples	14
2.2.5 Surface Finish	15

2.3 CHOOSING SPECTACLE FRAMES	16
2.4 SPECTACLE FRAMES MATERIAL	20
2.4.1 Titanium	20
2.4.2 Flexon (A Patented "Memory Metal")	21
2.4.3 Beryllium	21
2.4.4 Stainless Steel	22
2.4.5 Aluminum	22
2.4.6 Tical	23
2.4.7 Zyl (Plastic Or Cellulose Acetate)	23
2.4.8 Monel	24
2.4.9 Nylon	24
2.5 TYPES OF SPECTACLE FRAMES	25
2.5.1 Metal Frames	25
2.5.2 Plastic Frames	26
2.5.3 Nickel-Free Frames	26
2.5.4 Stainless Steel Frames	26
2.5.5 Titanium Frames	27
2.5.6 Rimless	27
2.5.7 Semi – Rimless	27
2.5.8 Half Eye	28
2.5.9 Sports And Specialist Frames	28
2.5.10 Safety Frames	28
2.6 SPECTACLE INDUSTRY MARKET OVERVIEW	29
CHAPTER 3.0 : PROBLEM IDENTIFICATION	32
3.1 PROBLEM IDENTIFICATION METHODOLOGY	32
3.2 QUESTIONNAIRE	33
3.2.1 Questionnaire Result	35
3.3 ANALYSIS OF THE EXISTING PRODUCT	36
3.3.1 Semi Rimless	36

3.3.1.1 Casual	36
3.3.1.1.1 Casual Spectacle Frame 1	36
3.3.1.1.2 Casual Spectacle Frame 2	37
3.3.1.1.3 Casual Spectacle Frame 3	37
3.3.1.1.4 Casual Spectacle Frame 4	38
3.3.1.2 Sporty	39
3.3.1.2.1 Sporty Spectacle Frame 1	39
3.3.1.2.2 Sporty Spectacle Frame 2	40
3.3.1.2.3 Sporty Spectacle Frame 3	40
3.3.1.2.4 Sporty Spectacle Frame 4	41
CHAPTER 4.0 : DESIGN STAGE	42
4.1 METHODOLOGY	42
4.2 PRODUCT DESIGN SPECIFICATION (PDS)	42
4.2.1 The Structured PDS	42
4.2.2 Product Characteristics	43
4.2.3 Spectacle Frame PDS Chart	44
4.2.4 Combination Of Casual Spectacle Frame With Sporty Spectacle Frame PDS	45
4.3 CONCEPTUAL DESIGN	47
4.3.1 Combination Casual Spectacle Frame And Sporty Spectacle Frame Conceptual Design Criteria	47
4.3.2 Concept 1 : Combination Casual And Sporty Spectacle Frame Sketching	48
4.3.2.1 Concept 1 : Combination Casual And Sporty Spectacle Frame	49
4.3.3 Concept 2 : Combination Casual And Sporty Spectacle Frame Sketching	50
4.3.3.1 Concept 2 : Combination Casual And Sporty Spectacle Frame	51
4.3.4 Concept 3 : Combination Casual And Sporty Spectacle Frame Sketching	52

4.3.4.1 Concept 3 : Combination Casual And Sporty Spectacle Frame	53
4.4 EXPANDING IDEA	54
4.4.1 Expanding Idea 1 : Combination Casual And Sporty Spectacle Frame Sketching	54
4.4.1.1 Expanding Idea 1 : Combination Casual And Sporty Spectacle Frame	55
4.4.2 Expanding Idea 2 : Combination Casual And Sporty Spectacle Frame Sketching	56
4.4.2.1 Expanding Idea 2 : Combination Casual And Sporty Spectacle Frame	57
4.4.3 Expanding Idea 3 : Combination Casual And Sporty Spectacle Frame Sketching	58
4.4.3.1 Expanding Idea 3 : Combination Casual And Sporty Spectacle Frame	59
4.4.4 Expanding Idea Selection	60
4.5 FINAL IDEA SKETCHING	63
4.5.1 Final Idea Description	64
4.5.2 Final Idea Advantages	64
4.5.3 Final Idea Disadvantages	65
4.6 SUMMARY OF THE CHAPTER 4	66
CHAPTER 5.0 : ANTHROPOMETRY	67
5.1 ANTHROPOMETRICS DATA	67
5.1.1 Face Measurement	67
5.1.1.1 Section Of Structural Anthropometrics Data (A)	68
5.1.1.2 Section Of Structural Anthropometrics Data (B)	71
5.1.1.3 Section Of Structural Anthropometrics Data (C)	74
5.1.1.4 Section Of Structural Anthropometrics Data (D)	77
5.1.1.5 Section Of Structural Anthropometrics Data (E)	80

CHAPTER 6.0 : DRAWING	83
6.1 DETAIL DRAWING	83
6.1.1 Spectacle Frame Detail Drawing (1)	84
6.1.2 Spectacle Frame Detail Drawing (2)	85
6.1.3 Spectacle Frame Detail Drawing (3)	86
6.1.4 Spectacle Frame Isometric Drawing	87
6.1.5 Spectacle Frame Exploded Drawing	88
6.1.6 Spectacle Frame Isometric Drawing (Close Temples)	89
6.1.7 Spectacle Frame Isometric Drawing (Open Temples)	90
6.1.8 Spectacle Frame Drawing (Main Body)	91
6.1.9 Spectacle Frame Exploded Drawing	92
6.1.10 Spectacle Frame Drawing (Temple Right)	93
6.1.11 Spectacle Frame Drawing (Temple Left)	94
CHAPTER 7.0 : MATERIAL SELECTION	95
7.1 MATERIAL SELECTION (ACTUAL PLASTIC SPECTACLE FRAME)	95
7.1.1 Composition Of Plastic	96
7.1.1.1 Plastics	96
7.1.1.2 Plastics Properties	97
7.1.2 Polyamides (Nylons)	99
7.1.2.1 Nylon Properties	100
7.1.2.2 Nylon Advantages	105
7.1.3 Stainless Steel	106
7.1.3.1 Stainless Steel Advantages	107
7.1.4 Silicone Rubbers	108
7.1.4.1 Silicone Rubbers Properties	109
7.1.4.2 Silicone Rubber Advantages	110
7.2 MATERIAL SELECTION (SPECTACLE FRAME PROTOTYPE)	111
7.2.1 Wood	113

7.2.1.1 Different Woods	113
7.2.1.2 Wood Advantages	114
7.2.2 Nail	115
7.2.2.1 Nail Advantages	115
7.2.3 Sponge advantages	115
CHAPTER 8.0 : MANUFACTURING PROCESS	116
8.1 MANUFACTURING PROCESSES (ACTUAL PLASTIC SPECTACLE FRAME)	116
8.1.1 Injection Moulding	117
8.1.1.1 Mould	118
8.1.1.2 Injection Process	120
8.1.1.3 Advantages Of Injection Moulding	123
8.1.1.4 Disadvantages Of Injection Moulding	123
8.1.2 Screwing	124
8.1.3 Sticking	125
8.2 MANUFACTURING PROCESSES (SPECTACLE FRAME PROTOTYPE)	126
8.2.1 Cutting, Grinding And Filing	127
8.2.2 Punching	130
8.2.3 Sticking	132
CHAPTER 9.0 : COSTING	135
9.1 BIL OF MATERIAL (SPECTACLE FRAME PROTOTYPE)	135
9.2 COSTING (SPECTACLE FRAME PROTOTYPE)	136
9.2.1 Material Cost	136
9.2.2 Machining Cost	137
9.2.3 Labour Cost	138
9.2.4 Others Cost	138
9.3 TOTAL COSTING (SPECTACLE FRAME PROTOTYPE)	139

CHAPTER 10.0 : DISCUSSION AND CONCLUSION	140
10.1 DISCUSSION	140
10.2 CONCLUSION	143
10.3 RECOMMENDATION	144
REFERENCES	145
APPENDICES	147

LIST OF TABLES

TABLE NUMBER	TITTLE	PAGE
3.1	Sporty Spectacle Frame 1 Features	39
4.1	Conceptual Design Criteria	47
4.2	Expanding Idea Selection	61
5.1	Section Of Structural Anthropometrics Data (A)	68
5.2	Section Of Structural Anthropometrics Data (A) Histogram	70
5.3	Section Of Structural Anthropometrics Data (B)	71
5.4	Section Of Structural Anthropometrics Data (B) Histogram	73
5.5	Section Of Structural Anthropometrics Data (C)	74
5.6	Section Of Structural Anthropometrics Data (C) Histogram	76
5.7	Section Of Structural Anthropometrics Data (D)	77
5.8	Section Of Structural Anthropometrics Data (D) Histogram	79
5.9	Section Of Structural Anthropometrics Data (E)	80
5.10	Section Of Structural Anthropometrics Data (E) Histogram	82
6.1	Spectacle frame Parts	83
7.1	List Of the Parts And The Types Of Materials	95
7.2	Plastic Properties	97
7.3	Physical Properties	100
7.4	Mechanical Properties	101
7.5	Electrical Properties	102
7.6	Thermal Properties	103
7.7	Optical Properties	103

7.8	Processing Properties	104
7.9	List Of The Parts And The Types Of Materials	112
8.1	List Of The Parts And The Processes	116
8.2	List Of The Parts And The Processes	126
8.3	Manufacturing Processes Steps for Cutting, Grinding and Filing	128
8.4	Manufacturing Processes Steps for Punching	131
8.5	Manufacturing Processes Steps for Sticking	133
9.1	Bil Of Material (Spectacle Frame Prototype)	135
9.2	Material Cost	136
9.3	Machining Cost	137
9.4	Estimating Labour Cost	138
9.5	Total Cost	139

LIST OF FIGURES

FIGURE NUMBER	TITLE	PAGE
1.1	Project Flow Chart	3
1.2	Project Methodology	5
1.3	Steps Of The Engineering Design Process	7
2.1	21 st Century Spectacles	10
2.2	Basic Component Of Spectacle Frame	12
2.3	Choosing The Correct Spectacle Frame	17
3.1	Casual Spectacle Frame 1	36
3.2	Casual Spectacle Frame 2	37
3.3	Casual Spectacle Frame 3	37
3.4	Casual Spectacle Frame 4	38
3.5	Sporty Spectacle Frame 1	39
3.6	Sporty Spectacle Frame 2	40
3.7	Sporty Spectacle Frame 3	40
3.8	Sporty Spectacle Frame 4	41
4.1	Spectacle Frame PDS Chart	44
4.2	Concept 1	48
4.3	Concept 2	50
4.4	Concept 3	52
4.5	Expanding Idea 1	54
4.6	Expanding Idea 2	56
4.7	Expanding Idea 3	58
4.8	Final Idea	63

5.1	Face Measurement	67
6.1	Spectacle Frame Detail Drawing (1)	84
6.2	Spectacle Frame Detail Drawing (2)	85
6.3	Spectacle Frame Detail Drawing (3)	86
6.4	Spectacle Frame Isometric Drawing	87
6.5	Spectacle Frame Exploded Drawing	88
6.6	Spectacle Frame Isometric Drawing (Close Temples)	89
6.7	Spectacle Frame Isometric Drawing (Open Temples)	90
6.8	Spectacle Frame Isometric Drawing (Main Body)	91
6.9	Spectacle Frame Exploded Drawing	92
6.10	Spectacle Frame Isometric Drawing (Temple Right)	93
6.11	Spectacle Frame Isometric Drawing (Temple Left)	94
8.1	Manufacturing Process Flow for Injection Moulding	117
8.2	Injection Molding machine	117
8.3	Paper clip mould opened in moulding machine, the nozzle is visible at right	118
8.4	Small injection moulder showing hopper, nozzle and die Area	120
8.5	Element of Plastic Injection Machine	121
8.6	Injection Moulding Process	123
8.7	Manufacturing Process Flow for Screwing	124
8.8	Manufacturing Process Flow for Sticking	125
8.9	Manufacturing Process Flow for Cutting, Grinding and Filing	127
8.10	Manufacturing Process Flow for Hammering	130
8.11	Manufacturing Process Flow for Sticking	132
8.12	Complete Spectacle Frames Prototype	134
10.1	Design Stage Chart	142

LIST OF ACRONYMS

[K]

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[P]

PDS Product Design Specification

LIST OF APPENDICES

APPENDICES	TITTLE	PAGE
A	GANTT CHART	148
B	QUESTIONNAIRE	149
C	WORKSYOP PERMISSION FORM	150
D	DETAIL DRAWING	151

CHAPTER 1.0 : INTRODUCTION

1.1 SPECTACLE INTRODUCTION

Spectacle is one of the necessary things that certain person's must have. It can help the person to see clearly. Today spectacle is not use for help the person to see clearly but now it's also like a fashion or trend to wear the spectacle. So in the designing of the spectacle, the designer must ensure the design of the spectacle is perfect.

In this project the designer preliminary research is only on spectacle frame where involve users of the spectacle. The designer must improve the existing spectacle frame design and come out with the new concept of design based on public users like combination casual spectacle frame and sporty spectacle frame.

1.2 OBJECTIVE

The objectives of this project are:

- 1) Improve existing spectacle frame design
- 2) Design a new concept of spectacle frame based on public users (combination casual spectacle frames and sporty spectacle frames)
- 3) Use design methodology
- 4) Enhancement on manufacturing product design
- 5) Fabricate a prototype using the manufacturing process of "Small and Medium Industry" in order to proposing a new concept of combination spectacle frame

1.3 SCOPE

This project describes preliminary research of only on spectacle frames where involve user of the spectacle. Important issues investigated in this project include the existing product of spectacle frames, the capabilities of the existing product, product history and literature review and questionnaire which is to determine the prevalence of user problem within their spectacle frames.

Further development of this project will analyze the effectiveness of the combination casual spectacle frame and sporty spectacle frame design and proposed a new concept of design the spectacles frames

This project also describes the design process such as the product design specification, ideation and development process, design comparison, material selection, manufacturing process and costing.

1.4 PROJECT FLOW CHART FOR FINAL YEAR PROJECT

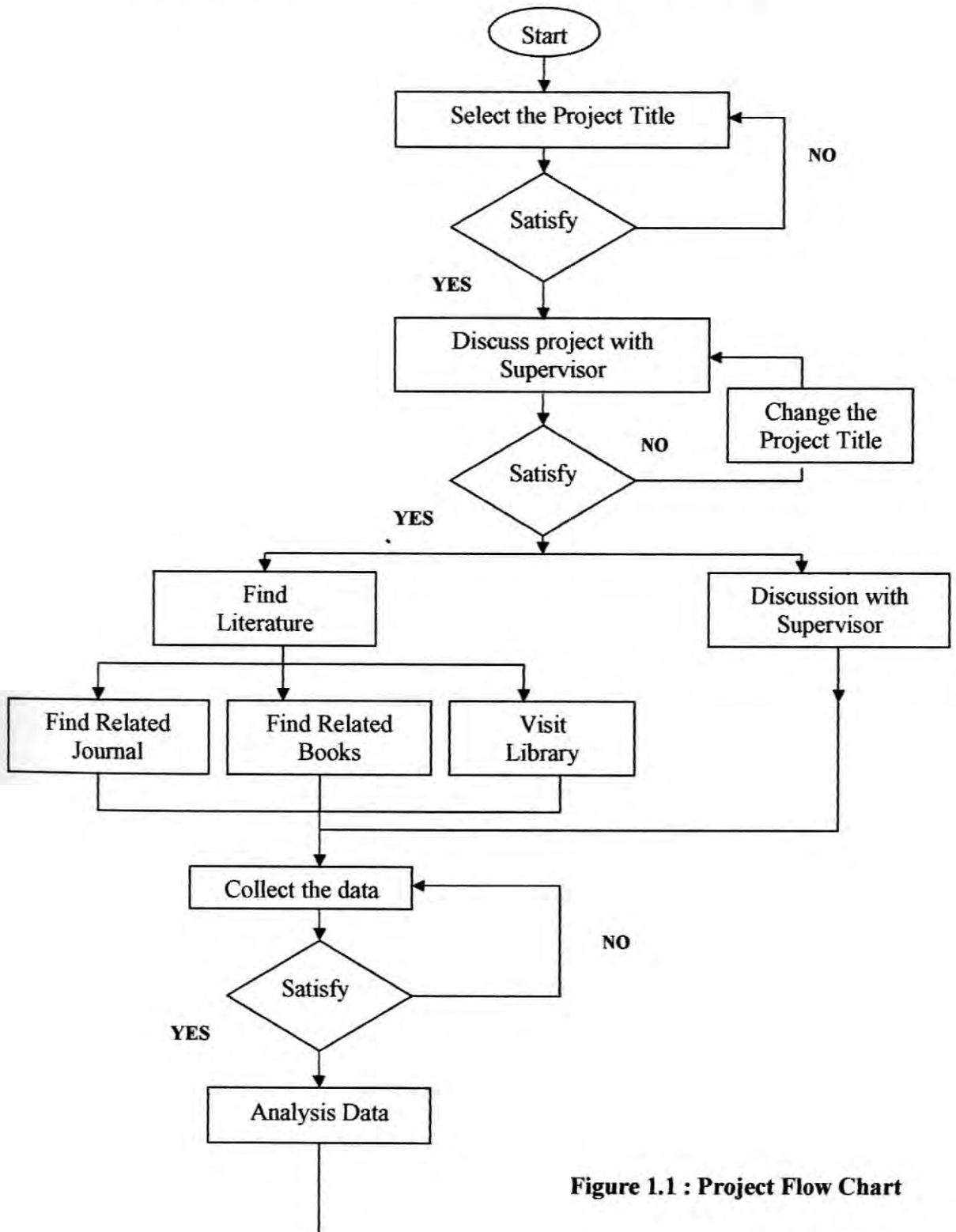


Figure 1.1 : Project Flow Chart