INFORMATION SYSTEM DEVELOPMENT IN "VEGETUS" VEGETARIAN MINIMARKET

THESIS

Submitted in Partial Fulfillment of the Requirements for the Degree of Bachelor of Engineering in Industrial Engineering



Arranged by:

Fiona Olivia Marlim 071405263 / TI

INTERNATIONAL INDUSTRIAL ENGINEERING PROGRAM
FACULTY OF INDUSTRIAL ENGINEERING TECHNOLOGY
UNIVERSITAS ATMA JAYA YOGYAKARTA
2011

STATEMENT OF ORIGINALITY OF WORK

I honestly declare that this thesis which I wrote does not contain the works o part of the work of other people, except those cited in the quotations and bibliography, as a scientific paper should.

Yogyakarta, June 10, 2011

The Author,

(Fiona Olivia Marlim)

1FEBCAAF402/0485

A THESIS

ON

INFORMATION SYSTEM DEVELOPMENT IN "VEGETUS" VEGETARIAN MINIMARKET

has been examined and approved on June 15, 2011

Adviser,

Co-Adviser,

(Ign. Luddy Indra P., M.Sc.) (Ririn Diar Astanti, D.Eng.)

Board of Examiners,

Chair,

(Ign. Luddy Indra P., M.Sc.)

Member,

Member,

(Yosef Daryanto, S.T., M.Sc.) (P. Yudi Dwi A., S.T., M.Sc.)

Yogyakarta, June 15, 2011

Dean of Faculty of Industrial Technology .Universatas Atma Jaya Yogyakarta

(Ir. B. Konatyano Kedatyanto, M. Eng., Ph.D.)

ACKNOWLEDGEMENT

Dedicated to:

LaoMu & Milefo

R.A. Kartini George Bernard Shaw

Simbok Henny & Bapak Jono

Mbakyu Meiske & Mikel & Ebil

▼ Mas Cipto ▼

FOREWORD

Thanks to Lord for all the blessing that He gives, which makes the author able to accomplish my final project and its report, entitled "INFORMATION SYSTEM DEVELOPMENT IN VEGETUS VEGETARIAN MINIMARKET". It is made as the partial fulfillment of the requirement for the degree of Bachelor of Engineering in Industrial Engineering degree of Industrial Engineering from Universitas Atma Jaya Yogyakarta.

The author also wants to thank for all the parties that have helped in accomplishing this final project, especially for:

- Mr. Ir. B. Kristyanto, M.Eng, Ph. D as the Dean of Industrial Technology Faculty UAJY.
- 2. Mr. The Jin Ai, D.Eng. as the Chief of Industrial Engineering Study Program FTI UAJY.
- 3. Mrs. Ririn Diar Astanti, D.Eng as the Chief of International Industrial Technology Study Program FTI UAJY and also as the co-adviser of this final project.
- 4. Mr.Ign. Luddy Indra P., M.Sc. as the adviser of this final project.
- 5. Mr. Hadi Santono, S.T., M.T.
- 6. Mr. Sudjono and dr. Lusia Anggraini who believe and give the chance for the author to create the information system for Vegetus.
- 7. Mr. Eryc as the chief of Indonesia Vegetarian Society Yogyakarta.

- 8. Mr. Aron, mbak Yuli, Jeje(fry), Pimpim, Tata(t), Jojo(chen), Veve(mby) and all 'invisible occupant' in laboratory of PO.
- 9. All lecturers, employee, and friends in UAJY.
- 10. 'Rekan sejawat': Sylvia Soelistyo, Danang Limantoro, Rachel Sugeha, Jaya Kusuma Atmaja, Marko Tatat, Nizia Lopez, Alex Aji Surya Utama ©©© Jiayou!!!
- 11. All my best friends forever: Ruri Maharani, Maria Lisa Nova, Sylvia Soelistyo, Danang Limantoro, Jaya Kusuma Atmaja
- 12. Gemberlerz: Nova, Pitoy, Ayiex, Naye, and all gembel-gembel of IA1! Taratam-taratam!!
- 13. Ge wei DCS, Tz, Fy, and ge wei jianxian in Vihara
 Boddhicitta Maitreya and Pusdiklat Sukhavati
 Maitreya
- 14. My parents: Mr. Sudjono Salim and Mrs. Listyawati. Thank you for everything that you give to me in my whole life... and also for all support so that I can finish my study. Semoga saya selalu bisa menjadi anak yang berbakti pada orang tua. Amin!
- 15. My sister, Meiske Berthaliem, and her angels:
 Mikael Kencana and Gabriel Kencana... "Isn't he
 lovely???"
- 16. Other parties that can't be mentioned in this report that has helped the author.
- 17. My Sucipto Tanoko, thanks for being the part of our beautiful commitment! Also thanks for your 'iming2' of marriage... It just supports me at all... =D

Hopefully, this report of final project could give any advantage for all parties. Thank you.

Yogyakarta, May 27, 2011

-The Author-

CONTENTS

TITLE	PAGE	i
APPRO	OVAL	ii
ACKNO	WLEDGEMENT	iii
FORE	ORD	iv
CONTE	ENTS	vii
LIST	OF TABLE	ix
LIST	OF FIGURE	хi
LIST	OF APPENDICES	xii
ABSTE	RACT	xiv
CHAPI	TER 1 : INTRODUCTION	1
1.1	Background	1
1.2	Problem Statement	2
1.3	Research Objectives	2
1.4	Scope of Research	3
1.5	Research Methodology	3
1.6	Report Outline	6
	TER 2 : LITERATURE REVIEW	
	Previous Research	
2.2.	Current Research	9
CHAPI	TER 3 : BASIC THEORY	13
3.1	System	13
3.2	Information	13
3.3	System Information	14
	3.3.1 Transaction Processing System (TPS).	14
	3.3.2 Management Information System (MIS).	15

3.4 System Life Cycle (SLC)	15					
3.4.1 Project Definition	16					
3.4.2 System Study (Analysis)	16					
3.4.3 Design	17					
3.4.4 Programming	17					
3.4.5 Installation	17					
3.4.6 Post Implementation	18					
	19					
	19					
	20					
4.3 Available Hardware and Software	22					
4.4 Organizational Structure	22					
4.5 Product	24					
CHAPTER 5 : ANALYSIS AND DISCUSSION	26					
	26					
	26					
	26					
*	30					
	34					
	37					
	55					
	55					
3	90					
	95					
5.4 Installation	95					
CHAPTER 6 : CONCLUSION AND RECOMMENDATION	111					
6.1 Conclusion	111					
6.2 Recomendation	112					
REFERENCES	xvi					
APPENDIX						

LIST OF TABLE

Table 2.1	Comparison of Previous and Current	
	Research	10
Table 5.1	Table of Identify Customer Simulation	38
Table 5.2	Table of Process the Order Simulation	39
Table 5.3	Table of Print the Receipt Simulation	40
Table 5.4	Table of Decide and List the Product	
	to Purchase Simulation	42
Table 5.5	Table of Sending Order to Supplier	
	Simulation	43
Table 5.6	Table of Receiving the Product	
	Simulation	44
Table 5.7	Table of Check the Product Simulation	45
Table 5.8	Table of Doing Payment Simulation	47
Table 5.9	Table of Record the Data of	
	Purchasing Simulation	48
Table 5.10	Table of Printing the List of Product	
	Sold Simulation	49
Table 5.11	Table of Count and Record the Real	
	Stock Simulation	50
Table 5.12	Table of Report the Stock Opname	
	Simulation	52
Table 5.13	Table of Daily Audit Simulation	54
Table 5.14	The Design of the Table of Product	57
Table 5.15	The Design of the Table of Customer	58
Table 5.16	The Design of the Table of User	59
Table 5.17	The Design of the Table of Supplier	60
Table 5.18	The Design of the Table of Sales	62
Table 5.19	The Design of the Table of Purchasing	64

Table	5.20	The	Design	of	the	Table	of	Stock	
		Opna	me						65
Table	5.21	Tabl	e of Men	ıu ar	nd Suk	omenu i	n "V	egetus	
		Vege	tarian M	Iinim	arket	" Form.			97

LIST OF FIGURE

Figure	1.1	Flowchart of Research Methodology	4
Figure	3.1	Basic Configuration of Element of a	
		System	13
Figure	3.2	Six Formal Stages of the System	
		Life Cycle (SLC)	16
Figure	4.1	Organization Structure of Vegetus	
		Vegetarian Minimarket	22
Figure	4.2	Example of Product Sold	25
Figure	5.1	Business Process of Sales	27
Figure	5.2	Business Process of Purchasing	28
Figure	5.3	Business Process of Stock Opname	29
Figure	5.4	Business Process of Daily Audit	29
Figure	5.5	Entity Relationship Diagram (ERD)	67
Figure	5.6	IVS Member Card	69
Figure	5.7	Context Diagram	74
Figure	5.8	Structured Design	75
Figure	5.9	Structure Chart	78
Figure	5.10	DFD Level 0	81
Figure	5.11	DFD Level 1 for Process 1	82
Figure	5.12	DFD Level 1 for Process 2	83
Figure	5.13	DFD Level 1 for Process 3	84
Figure	5.14	DFD Level 1 for Process 4	86
Figure	5.15	DFD Level 1 for Process 5	87
Figure	5.16	DFD Level 2 for Process 3	88
Figure	5.17	DFD Level 2 for Process 5	89
Figure	5.18	General Design of Receipt	91
Figure	5.19	Example of Receipt	91
Figure	5.20	General Design of Report	92
Figure	5.21	Design for Report of Sales	93

Figure	5.22	Design for Report of Purchasing	93
Figure	5.23	Design for Report of Stock Opname	94
Figure	5.24	Design for List of Product Sold	94
Figure	5.25	"Login" Form	95
Figure	5.26	Message Box	96
Figure	5.27	"Vegetus Vegetarian Minimarket"	
		Form	97
Figure	5.28	"Data of User" Form	98
Figure	5.29	Data of Product Form	99
Figure	5.30	"Data of Customer" Form	100
Figure	5.31	"Data of Supplier" Form	101
Figure	5.32	"Sales Transaction Input" Form	102
Figure	5.33a	Form for Product Sold Search	102
Figure	5.33b	Form for Customer Search	102
Figure	5.34	Form for Printing the Receipt	103
Figure	5.35	"Purchasing Transaction Input" Form	104
Figure	5.36	Form for Product Search	104
Figure	5.37	"Real Stock Input" Form	105
Figure	5.38	"Report of Sales" Form	106
Figure	5.39	Report of Sales	106
Figure	5.40	"Report of Purchasing per-Purchase	107
		Order" Form	107
Figure	5.41	"Report of Purchasing per-Period"	
		Form	108
Figure	5.42	Report of Purchasing	108
Figure	5.43	"Report of Stock Opname" Form	109
Figure	5.44	Report of Stock Opname	109
Figure	5.45	List of Product Sold	110

LIST OF APPENDICES

Appendix 1 : Program code

ABSTRACT

Vegetus Vegetarian Minimarket is a minimarket that sells vegetarian food and vegetarian stuff. It is going to be opened by Mr. Sudjono and dr. Lusia Anggraini in Yogyakarta at the end of 2011.

Similar to others modern minimarkets, Mr. Sudjono and dr. Lusia intend to establish the Computer Based Information System (CBIS) in Vegetus Vegetarian Minimarket. CBIS is able to give real time and more accurate information as needed. In addition, CBIS can reduce human error since the processes such as calculation, identification, reporting; are done by the computer. That condition also gives more advantages in reducing time needed for those processes. Besides that, CBIS can make the control of the performance of the employee become easier since the record and the report are computerized. The owners intend to apply the CBIS to support the business processes in Vegetus. As every organization has its own business processes, the CBIS needs to be build based on the requirement.

The CBIS is developed as an information system in Vegetus vegetarian Minimarket based on the method of the System Life Cycle (SLC). It is realized using Microsoft Access 2003 and Visual Basic 6.0 with Operating System software of Windows XP. In order to fulfil the business requirement, The CBIS is dveloped in the level of Transaction Processing System (TPS) and Management Information System (MIS).