REQUIREMENT MODEL FOR WEB BASED CUSTOMER ORDERING SYSTEM - SEGAR MART AS CASE STUDY

BASHIR M. MOHAMED GEBLAWI

UNIVERSITI UTARA MALAYSIA
2006
Saya, yang bertandatangan, memperakukan bahawa
(I, the undersigned, certify that)

BASHIR M. MOHAMED GEBLAWI

calon untuk Ijazah
(candidate for the degree of) Msc. (ICT)
telah mengemukakan kertas projek yang bertajuk
(has presented his/her project paper of the following title)

REQUIREMENT MODEL FOR WEB BASED CUSTOMER ORDERING SYSTEM
- SEGAR MART AS CASE STUDY

seperti yang tercatat di muka surat tajuk dan kulit kertas projek
(as it appears on the title page and front cover of project paper)

bahawa kertas projek tersebut boleh diterima dari segi bentuk serta kandungan
dan meliputi bidang ilmu dengan memuaskan.
(that the project paper acceptable in form and content, and that a satisfactory
knowledge of the filed is covered by the project paper).

Nama Penyelia Utama
(Name of Main Supervisor): MRS. NUR HARYAN ZAKARIA

Tandatangan
(Signature) : [Signature] Tarikh (Date): 18/11/2006

Nama Penyelia Kedua
(Name of 2nd Supervisor): ASSOC. PROF. DR. WAN ROZAINI SHEIK OSMAN

Tandatangan
(Signature) : [Signature] Tarikh (Date): 18/10/2006
PERMISSION TO USE

In presenting this thesis, the author agrees that Universiti Utara Malaysia’s library may make this thesis freely available for reference and inspection. The author further agrees that permission for photocopying of this thesis in any manner, in whole or in part, for scholarly purpose may be granted by the author’s supervisor or, in her absence, by the Dean of the Faculty of Information Technology. It is understood that any photocopying, publication, use of this thesis, or parts thereof for financial gain shall not be allowed without the author’s written permission. It is also understood that, due recognition shall be given to the author and Universiti Utara Malaysia for any scholarly use of the materials presented in this thesis.

Permission for photocopying or other use of materials in this thesis, in whole or in parts, should be addressed to:

Dean of Faculty of Information Technology
Universiti Utara Malaysia
06010 UUM Sintok
Kedah Darul Aman
ABSTRACT (ENGLISH)

The major concern among the farmers these days are on distributing their products to the right customers at the right time. These farmers have been depending on “middle-person” to take their products to customers. This situation has restricted farmers to be more successful in selling their products and earn better profits. In today’s digital economy, selling goods have moved from the traditional way to the new way of doing business on the Web. Seeing this as an opportunity, agricultural goods should not be excluded from this golden opportunity. This research project is intended to propose a requirement model for web-based customer ordering system. Requirement model provides a more structured and integrated guide for the development of the system and serves as a good starting point for system development to understand users’ requirement. To accomplish this research project, a case study has been conducted at Segar Mart which is a shop initiated by MOA for the farmers to sell their products direct to the customers.

The requirements captured from the study are modeled out using Unified Modeling Language’s (UML) notation. The prototype technique is used to validate the requirements. In this technique, a simple prototype is developed by using ASP as programming language, My SQL Database server and Macromedia Dreamweaver for interfaces.
ABSTRAK (BAHASA MALAYSIA)

ACKNOWLEDGEMENT

First, I would like to express my appreciation to Allah, the Most Merciful and, the most compassionate who has granted me the ability and willing to start and complete this study. I do pray to his greatness to inspire and enable me to continue the work for the benefits of humanity.

My most profound thankfulness goes to my supervisor Mdm. Nur Haryani bt Zakaria for her scientifically proven and creativity encouraging guidance. Moreover, I would like to thank deeply my second supervisor A.P. Dr. Wan Rozaini Sheik Osman for her enthusiasm wakening guidance, scientific discussions and great support in doing this study.

My deepest thanks go to my family for their love, supporting and understanding. My appreciation also goes to all of my fellow friends who have helped me in giving me valuable ideas and encouragement that has motivated me to complete this thesis.

Last, but not least. I would like to thanks to all who lend a kindly hand in materializing this project.

Thank you UUM.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERMISSION TO USE</td>
<td></td>
<td>i</td>
</tr>
<tr>
<td>ABSTRACT (ENGLISH)</td>
<td></td>
<td>ii</td>
</tr>
<tr>
<td>ABSTRAK (BAHASA MALAYSIA)</td>
<td></td>
<td>iii</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENT</td>
<td></td>
<td>iv</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
<td></td>
<td>v</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td></td>
<td>viii</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td></td>
<td>ix</td>
</tr>
<tr>
<td>LIST OF ABBREVIATIONS</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>LIST OF APPENDICES</td>
<td></td>
<td>xi</td>
</tr>
</tbody>
</table>

## CHAPTER ONE : BACKGROUND OF THE STUDY

1.1 An overview of the study 1

1.2 Problem Statement 3

1.3 Research Questions 4

1.4 Research Objectives 4

1.5 Scope of Study 4

1.6 Significant Of Study 5

1.7 Expected Output 5

## CHAPTER TWO : LITERATURE REVIEW

2.1 The importance of agriculture 6

2.2 The concept of agribusiness 8

2.3 ICT Adoption in Agriculture Development 10

2.4 Current scenarios of agriculture developments in Malaysia 13

## CHAPTER THREE : RESEARCH METHODOLOGY
3.1 Research design model  
3.2 Awareness of Problem  
3.3 Suggestion  
3.4 Development  
3.5 Evaluation  
3.6 Conclusion  

**CHAPTER FOUR : RESEARCH FINDINGS AND ANALYSIS**

4.1 Requirement Model for Segar Mart  
4.4.1 Use case diagram  
4.4.2 Definition of Actor  
4.4.3 Use case specification  
4.4.4 Use case specification for the customer  
4.4.5 Use case specification for the Segar Mart  
4.4.6 Activity diagram  
4.4.7 Class diagram  
4.4.8 Sequence diagram  
4.4.8.1 Sequence diagram for the customer  
4.4.8.2 Sequence diagram for Segar Mart  
4.4.9 Collaboration Diagram  
4.4.9.1 Collaboration Diagram for the customer  
4.4.9.2 Collaboration Diagram for Segar Mart  
4.4.10 Prototype development and interfaces  
4.4.11 A list of requirement  

**CHAPTER FIVE : DISCUSSION AND CONCLUSION**

5.1 Introduction  
5.2 Benefits of project  
5.3 Limitation of project  
5.4 Recommendation for future project  

REFERENCES  

APPENDIXES
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table No.</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 4.4.2.1</td>
<td>Definition of Actor</td>
<td>22</td>
</tr>
<tr>
<td>Table 4.4.4.1</td>
<td>Use case specification for the customer</td>
<td>25</td>
</tr>
<tr>
<td>Table 4.4.5.1</td>
<td>Use case specification for the Segar Mart</td>
<td>27</td>
</tr>
<tr>
<td>Table 4.4.11.1</td>
<td>A list of requirement</td>
<td>49</td>
</tr>
</tbody>
</table>
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure No.</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 3.1.1:</td>
<td>Research Design Model for Information System (by Vaishnavi, V. and Kuechler W. 2005)</td>
<td>17</td>
</tr>
<tr>
<td>Figure 4.4.2.1:</td>
<td>General Order Process Use Case</td>
<td>23</td>
</tr>
<tr>
<td>Figure 4.4.2.2:</td>
<td>Use case diagrams for customer</td>
<td>23</td>
</tr>
<tr>
<td>Figure 4.4.2.3:</td>
<td>Use case diagrams for Segar Mart</td>
<td>24</td>
</tr>
<tr>
<td>Figure 4.4.6.1:</td>
<td>Activity diagram for the customer</td>
<td>30</td>
</tr>
<tr>
<td>Figure 4.4.6.2:</td>
<td>Activity diagram for Segar Mart</td>
<td>31</td>
</tr>
<tr>
<td>Figure 4.4.7.1:</td>
<td>Class diagram</td>
<td>33</td>
</tr>
<tr>
<td>Figure 4.4.8.1.1:</td>
<td>Sequence diagram for registration (Customer)</td>
<td>34</td>
</tr>
<tr>
<td>Figure 4.4.8.1.2</td>
<td>Sequence diagram for login</td>
<td>35</td>
</tr>
<tr>
<td>Figure 4.4.8.1.3:</td>
<td>Sequence diagram for check available product information</td>
<td>36</td>
</tr>
<tr>
<td>Figure 4.4.8.2.1:</td>
<td>Sequence diagram for login (Segar Mart)</td>
<td>37</td>
</tr>
<tr>
<td>Figure 4.4.8.2.2:</td>
<td>Sequence diagram for add product</td>
<td>38</td>
</tr>
<tr>
<td>Figure 4.4.8.2.3:</td>
<td>Sequence diagram for update product</td>
<td>39</td>
</tr>
<tr>
<td>Figure 4.4.8.2.4:</td>
<td>Sequence diagram for delete product</td>
<td>40</td>
</tr>
<tr>
<td>Figure 4.4.8.2.5:</td>
<td>Sequence diagram for check customer order</td>
<td>41</td>
</tr>
<tr>
<td>Figure 4.4.9.1.1:</td>
<td>Collaboration Diagram for login (Customer)</td>
<td>42</td>
</tr>
<tr>
<td>Figure 4.4.9.1.2:</td>
<td>Collaboration Diagram for registration</td>
<td>43</td>
</tr>
<tr>
<td>Figure 4.4.9.1.3:</td>
<td>Collaboration Diagram for Check available product information</td>
<td>44</td>
</tr>
<tr>
<td>Figure 4.4.9.2.1:</td>
<td>Collaboration Diagram for login (Segar Mart)</td>
<td>45</td>
</tr>
<tr>
<td>Figure 4.4.9.2.2:</td>
<td>Collaboration Diagram for add product</td>
<td>46</td>
</tr>
<tr>
<td>Figure 4.4.9.2.3:</td>
<td>Collaboration Diagram for update product</td>
<td>46</td>
</tr>
<tr>
<td>Figure 4.4.9.2.4:</td>
<td>Collaboration Diagram for delete product</td>
<td>47</td>
</tr>
<tr>
<td>Figure 4.4.9.2.5:</td>
<td>Collaboration Diagram for check customer order</td>
<td>48</td>
</tr>
</tbody>
</table>
# LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOA</td>
<td>Ministry Of Agriculture</td>
</tr>
<tr>
<td>ASP</td>
<td>Active Server Page</td>
</tr>
<tr>
<td>SQL</td>
<td>Structure Query Language</td>
</tr>
<tr>
<td>UML</td>
<td>Unified Modeling Language</td>
</tr>
</tbody>
</table>
# LIST OF APPENDICES

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Questions of Interview in Segar Mart</td>
<td>56</td>
</tr>
<tr>
<td>B</td>
<td>Interfaces of Prototype development</td>
<td>59</td>
</tr>
</tbody>
</table>
CHAPTER 1

BACKGROUND OF THE STUDY

This chapter contains an overview of the study, problem statement, research questions, research objectives, scope, significance of the study and also output to be expected at the end of this research study.

1.1 An overview of the study

Agriculture is the process of producing food, feed, fiber and other desired products by the cultivation of certain plants and the raising of domesticated animals (livestock). The agricultural economics profession has been constantly reshaping itself since the beginning of the 20th century. At that time, the economic importance of agriculture and the large proportion of the population working in this sector increased the value of research on farm management and the economics of agriculture, leading to the establishment of the farm management profession.
The contents of the thesis is for internal user only
6.0 References

Clifton, B. (1967). Federal Reserve Rank of Stlouis


David, C., White, Roger, D., & Robert H. Hombaker. Economics of Sustainable Agriculture: a Literature Review Department of Agricultural Economics
University of Illinois


Futatsugi, S., (2001). Characteristics and Problems of Agribusiness for Rural Development in Japan. Department of Bio-Business Management and Information Faculty of International Agriculture Agriculture Food Study Tokyo University of Agriculture Tokyo, Japan


Krine, M. (2002). Comparative Regional Economic Impacts from Agriculture a Literature Review. Comparative Regional Economic Impacts of Agriculture


Marquardt, K. (1998). Locally developed agriculture a possibility or obstacle for preventing soil degradation.


Mohd, F. Agricultural Marketing Information for Selected Commodities in Malaysia. Universiti Pertanian Malaysia 43400. Serdang, Malaysia

Otsuka, K. (2003). Food and Agriculture Problems in East Asia Economic and Social Research Institute


