

**ONLINE MANAGEMENT INFORMATION SYSTEM FOR
NATIONAL COFFEE RESEARCH, DEVELOPMENT
AND EXTENSION CENTER (NCRDEC)**

THESIS

**REGENE M. DEGENION
PAUL JOHN P. DOMINGO**

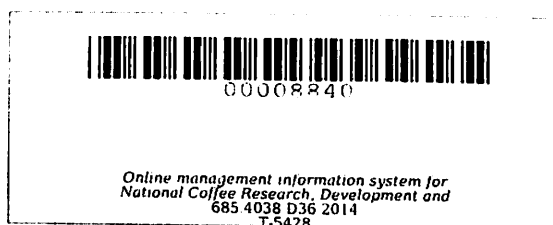
**College of Engineering and Information Technology
CAVITE STATE UNIVERSITY
Indang, Cavite**

April 2014

**ONLINE MANAGEMENT INFORMATION SYSTEM FOR
NATIONAL COFFEE RESEARCH, DEVELOPMENT AND
EXTENSION CENTER (NCRDEC)**

Undergraduate Thesis
Submitted to the Faculty of the
College of Engineering and Information Technology
Cavite State University
Indang, Cavite

In partial fulfillment
of the requirements for the degree
Bachelor of Science in Information Technology



REGENE M. DEGENION
PAUL JOHN P. DOMINGO
April 2014

ABSTRACT

DEGENION, REGENE M. and DOMINGO, PAUL JOHN P. Online Management Information System for National Coffee Research, Development and Extension Center. Undergraduate Thesis, Bachelor of Science in Information Technology. Cavite State University, Indang Cavite. April 2014. Adviser: Ms. Charlotte B. Carandang.

The study was conducted to develop an online management information system that would enhance the managerial tasks and decision- making of National Coffee Research, Development, and Extension Center, in line with their commitment of strengthening the coffee industry in the Philippines.

Software Development Methodology was used for the development of the system, having six (6) phases namely: Analyze/Planning, Breakdown Priority Project, Design Module, Code Test and Debug, Integration of Sub Procedure and Testing, Integration to Existing System, and Test / Implementation. In the development of the system, Windows 7 and 8 were used as the development platform, MySQL for the database and PHP as the server- side scripting language.

The system comprised of five (5) modules: Farm Management module, Employee Performance Monitoring module, Extensions Management module, Accounts Management module and Report Generation module.

The software underwent unit and integration tests to check system's functional integrity. Also, it underwent software evaluation participated by the employees of NCRDEC. Passing all these, the system was certified to pass all criteria and objectives were all fulfilled.

TABLE OF CONTENTS

	Page
BIOGRAPHICAL DATA	iii
ACKNOWLEDGEMENT	v
ABSTRACT	vii
LIST OF TABLES	x
LIST OF FIGURES	xi
LIST OF APPENDIX TABLES	xii
LIST OF APPENDIX FIGURES	xiii
LIST OF APPENDICES	xv
INTRODUCTION	1
Statement of the Problem	3
Importance of the Study	4
Objectives of the Study	5
Time and Place of the Study	6
Scope and Limitation of the Study	7
Theoretical Framework	8
Definition of Terms	11
REVIEW OF RELATED LITERATURE	13
Related Studies	24
METHODOLOGY	27
Materials	27

Methods	27
Analyze/planning	29
Breakdown priority project	29
Design module	30
Code-test/debug	30
Integration of sub-procedure and testing	31
Integration of existing system	32
Test/ implementation	32
RESULT AND DISCUSSION	33
System Overview	33
Software Evaluation	44
SUMMARY, CONCLUSION AND RECOMMENDATIONS	53
Summary	53
Conclusion	54
Recommendations	55
REFERENCES	56
APPENDICES	61

LIST OF TABLES

Table	Page
1 Overall evaluation of the developed system	45
2 Evaluation of the developed system in terms of its functionality by the participants	46
3 Evaluation of the developed system in terms of reliability by the participants	47
4 Evaluation of the developed system in terms of usability by the participants	48
5 Evaluation of the developed system by the participants in terms of efficiency.....	49
6 Evaluation of the developed system in terms of maintainability by the participants	50
7 Evaluation of the developed system in terms of portability by the participants	51
8 Overall evaluation of the developed system by the participants	52

LIST OF FIGURES

Figure	Page
1 Theoretical framework of Online Management Information System for NCRDEC	9
2 College of Engineering and Information Technology – Department of Information Technology software development methodology	28
3 System’s log in page	34
4 System’s dashboard	34
5 Farm area page	35
6 Set assessment form	36
7 Summary of assessed plants in a particular date	36
8 Report on pest infestation on a particular date	37
9 Report on plants with acquired diseases	37
10 Harvest form	38
11 Report on harvest summary on a particular date	38
12 Employee information page	39
13 Task management page	39
14 Employee task monthly report	40
15 Calendar of extension activities	41
16 Sample monthly accomplishment report	41
17 Reports page	42
18 Accounts management page	42

LIST OF APPENDIX TABLES

Appendix Table	Page
1 Gantt chart for Analyze / Planning	117
2 Gantt chart for Breakdown Priority Project and Design module	118
3 Gantt Chart for Code-Test / Debug	119
4 Gantt Chart for Code-Test / Debug	120
5 Distribution of the respondents' evaluation based on the functionality of the system	121
6 Distribution of the respondents' evaluation based on the reliability of the system.....	121
7 Distribution of the respondents' evaluation based on the usability of the system	122
8 Distribution of the respondents' evaluation based on the efficiency of the system	122
9 Distribution of the respondents' evaluation based on the maintainability of the system	123
10 Distribution of the respondents' evaluation based on the portability of the system	123
11 Distribution of the respondents' overall evaluation of the developed system	124
12 Overall evaluation of the developed system	124

LIST OF APPENDIX FIGURES

Appendix Figures	Page
1 Fishbone diagram of difficulty in consolidation of data	67
2 Fishbone diagram of data management problems	68
3 Fishbone diagram of limited access to information	69
4 Class diagram for Online Management Information System for National Coffee Research, Development and Extension Center	71
5 Database schema for Online Management Information System for National Coffee Research, Development and Extension Center	72
6 Component diagram for Online Management Information System for National Coffee Research, Development and Extension Center	73
7 Use case diagram for Online Management Information System for National Coffee Research, Development and Extension Center	74
8 Use case diagram for Account Management module	75
9 Use case diagram for Employee Performance Monitoring module	75
10 Use case diagram for Farm Management module	76
11 Use case diagram for Extension Management module	77
12 Use case diagram for Report Generation module	77
13 Activity diagram for Account Management module	78
14 Activity diagram for Farm Management module	79
15 Activity diagram for Employee Performance Monitoring module	80
16 Activity diagram for Extension Management module	81
17 Activity diagram for Report Generation module	82

18	Communication diagram for Online Management Information System for National Coffee Research, Development and Extension Center	83
19	Sequence diagram for user administrator of Online Management Information System for National Coffee Research, Development and Extension Center	84
20	Sequence diagram for user management of Online Management Information System for National Coffee Research, Development and Extension Center	85
21	Sequence diagram for user local MIS officer of Online Management Information System for National Coffee Research, Development and Extension Center	86
22	Package diagram of Online Management Information System for National Coffee Research, Development and Extension Center	87
23	Sample Interface of Online Management Information System for National Coffee Research, Development and Extension Center	88

LIST OF APPENDICES

Appendix	Page
1 Interview report	62
2 Appendix figures	66
3 Programming logs	89
4 Unit testing	94
5 Integration testing	101
6 System testing	103
7 Data dictionary	107
8 Appendix tables	116
9 Sample questionnaire of the software evaluation	125
10 Certification from Statistician	128
11 Certification from English critic	130
12 Sample source code	132

ONLINE MANAGEMENT INFORMATION SYSTEM FOR NATIONAL COFFEE RESEARCH, DEVELOPMENT AND EXTENSION CENTER (NCRDEC)

**Regene M. Degenion
Paul John P. Domingo**

^{1/}An undergraduate thesis submitted to the faculty of Department of Information Technology, College of Engineering and Information Technology, Cavite State University, Indang, Cavite in partial fulfillment of the requirements for the degree of Bachelor of Science in Information Technology. Contribution No. CEIT-2013-14-036. Prepared under the supervision of Ms. Charlotte B. Carandang

INTRODUCTION

Technology, specifically internet, brought changes to our way of living. Most of the organizations utilizes the benefits of web-based applications in their managerial activities such as information dissemination, collaboration of business stakeholders and strategic way of providing services (Omogbadegun, 2010).

One of these is the Web-based Management Information System (MIS). MIS provides a fitting platform for good decision making (Kumar, 2006). Essentially, without the established systems of getting information in MIS, it would be extremely difficult for organizations to make their decisions. This is because they would be forced to making baseless information due to the lack of confirmed information. Moreover, MIS normally lays a firm foundation for the establishment of concrete decisions through its systematic