

**DEVELOPMENT OF BARANGAY MANAGEMENT INFORMATION  
SYSTEM OF BUNA LEJOS, INDANG, CAVITE**

**THESIS**

**HAIZEL ANNE M. COSTA  
RICHELL MAY R. VICEDO**

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

**June 2018**

**DEVELOPMENT OF BARANGAY MANAGEMENT INFORMATION SYSTEM  
OF BUNA LEJOS, INDANG CAVITE**

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 and Information Technology



*Development of barangay management  
information system of Buna Lejos, Indang.  
658.4038 CB2 2018  
T.7285*

**HAIZEL ANNE M. COSTA  
RICHELL MAY R. VICEDO**  
May 2018

## TABLE OF CONTENTS

	<b>Page</b>
<b>BIOGRAPHICAL DATA .....</b>	iii
<b>ACKNOWLEDGEMENT .....</b>	iv
<b>ABSTRACT .....</b>	vi
<b>LIST OF TABLES .....</b>	ix
<b>LIST OF FIGURES .....</b>	x
<b>LIST OF APPENDICES .....</b>	xi
<b>LIST OF APPENDIX TABLES .....</b>	xii
<b>LIST OF APPENDIX FIGURES .....</b>	xiv
<b>INTRODUCTION .....</b>	1
Statement of the Problem .....	3
Objectives of the Study .....	4
Significance of the Study .....	4
Time and Place of the Study .....	5
Scope and Limitation of the Study .....	6
Definition of Terms .....	8
Theoretical Framework .....	9
<b>REVIEW OF RELATED LITERATURE .....</b>	14

<b>Related Literature</b> .....	14
Management information system .....	14
Ishikawa diagram .....	15
Use Case diagram .....	16
Hypertext preprocessor .....	17
My Structured Query language .....	18
<b>Related System</b> .....	19
Barangay management system .....	19
Barangay management information system: An information system for the Baranagay Pinointangan .....	20
Electronic barangay management system of Barangay Poblacion, Nabunturan .....	21
<b>MATERIALS AND METHODS</b> .....	24
Materials .....	24
Methodology .....	25
<b>RESULTS AND DISCUSSION</b> .....	28
<b>SUMMARY, CONCLUSION AND RECOMMENDATIONS</b> .....	47
Summary .....	47
Conclusion .....	48
Recommendations .....	48
<b>REFERENCES</b> .....	50
<b>APPENDICES</b> .....	51

## **LIST OF TABLES**

<b>Table</b>		<b>Page</b>
1	Comparison of related studies .....	22
2	Functionality of the system .....	39
3	Reliability of the system .....	39
4	Usability of the system .....	40
5	Efficiency of the system .....	41
6	Maintainability of the system .....	41
7	Portability of the system .....	42
8	User-friendliness of the system .....	43
9	Distribution of respondents' evaluation based on the over-all rating of the system .....	43
10	Functionality of the system .....	44
11	Reliability of the system .....	45
12	Usability of the system .....	45
13	User-friendliness of the system .....	46
14	Distribution of respondents' evaluation based on the over-all rating of the system .....	46

## **LIST OF FIGURES**

<b>Figure</b>		<b>Page</b>
1	Theoretical framework of development of barangay management information system of Buna Lejos, Indang Cavite .....	10
2	Agile software development .....	25
3	Login form .....	29
4	Mission and vision of the barangay .....	30
5	Dashboard .....	30
6	Adding of user account .....	31
7	Issuance of clearances and forms .....	31
8	Drug inventory record .....	32
9	List of incidents in the barangay .....	33
10	Financial record .....	33
11	Resident's information .....	34
12	Adding announcements .....	35
13	List of projects in the barangay .....	35
14	Barangay officials .....	36
15	Reports .....	36

## **LIST OF APPENDICES**

<b>Appendix</b>		<b>Page</b>
1	Clearances and forms .....	52
2	Logbook (cases) .....	59
3	Accomplishment report .....	61
4	Organizational chart .....	63
5	Interview report .....	65
6	Diagrams .....	68
7	Evaluation sheets .....	83
8	Unit and integration testing .....	90
9	Statistical analysis .....	95
10	Sample code .....	106
11	Forms .....	117

## **LIST OF APPENDIX TABLES**

<b>Appendix Table</b>		<b>Page</b>
1	<b>Functionality of the system . . . . .</b>	96
2	<b>Distribution of the respondents' evaluation based on the functionality of the system . . . . .</b>	96
3	<b>Reliability of the system . . . . .</b>	97
4	<b>Distribution of the respondents' evaluation based on the reliability of the system . . . . .</b>	97
5	<b>Usability of the system . . . . .</b>	97
6	<b>Distribution of the respondents' evaluation based on the usability of the system . . . . .</b>	98
7	<b>Efficiency of the system . . . . .</b>	98
8	<b>Distribution of the respondents' evaluation based on the efficiency of the system . . . . .</b>	98
9	<b>Maintainability of the system . . . . .</b>	99
10	<b>Distribution of the respondents' evaluation based on the maintainability of the system . . . . .</b>	99
11	<b>Portability of the system . . . . .</b>	99
12	<b>Distribution of the respondents' evaluation based on the portability of the system . . . . .</b>	100

13	User-friendliness of the system . . . . .	100
14	<b>Distribution of the respondents' evaluation based on the user friendliness of the system . . . . .</b>	100
15	Over-all rating of the system . . . . .	101
16	<b>Distribution of the respondents' evaluation based on the over-all rating of the system . . . . .</b>	101
17	Functionality of the system . . . . .	102
18	<b>Distribution of the respondents' evaluation based on the functionality of the system . . . . .</b>	102
19	Reliability of the system . . . . .	103
20	<b>Distribution of the respondents' evaluation based on the reliability of the system . . . . .</b>	103
21	Usability of the system . . . . .	103
22	<b>Distribution of the respondents' evaluation based on the usability of the system . . . . .</b>	103
23	User-friendliness of the system . . . . .	104
24	<b>Distribution of the respondents' evaluation based on the user friendliness of the system . . . . .</b>	104
25	Over-all rating of the system . . . . .	104
26	<b>Distribution of the respondents' evaluation based on the over-all rating of the system . . . . .</b>	105

## **LIST OF APPENDIX FIGURES**

<b>Appendix Figure</b>		<b>Page</b>
1	Barangay clearance .....	53
2	Certificate of indigency .....	54
3	Barangay clearance (business permit) .....	55
4	Barangay information sheet .....	56
5	Certificate of residency .....	57
6	Community tax certificate .....	58
7	Logbook cases .....	60
8	Monthly accomplishment report .....	62
9	Organizational chart of the barangay Buna Lejos II .....	64
10	Fishbone diagram of difficulty of managing daily transaction .....	69
11	Fishbone diagram of loss of data .....	70
12	Fishbone diagram of difficulty in generating the reports .....	71
13	Use case diagram for account management module .....	72
14	Use case diagram for barangay officials' module .....	73
15	Use case diagram for resident profiling module .....	74
16	Use case diagram for finance management module .....	75

17	Use case diagram for health and sanitation module .....	76
18	Use case diagram for peace and order module .....	77
19	Use case diagram for clearance and forms module .....	78
20	Use case diagram for communication module .....	79
21	Use case diagram for special projects module .....	80
22	Use case diagram for report generation module .....	81
23	Gantt Chart .....	82

# **DEVELOPMENT OF BARANGAY MANAGEMENT INFORMATION SYSTEM OF BUNA LEJOS, INDANG CAVITE**

**Haizel Anne M. Costa  
Richell May R. Vicedo**

---

An 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 with Contribution No.<sup>CEIT 2017</sup> ~~IB-2 -120~~. Prepared under the supervision of Ms. Vanessa G. Coronado.

---

## **INTRODUCTION**

Management information system (MIS) broadly refers to a computer-based system that provides tools to organize evaluate and efficiently manage departments within an organization. In order to provide past, present and prediction information, a management information system can include software that helps in decision making, data resources such as databases, the hardware resources of a system, decision support systems, people management applications, and any computerized processes that enable the department to run efficiently (Beal, 2011). Management information system is a set of systems and procedures that gather information from range of sources compile it and present it in a readable format. MIS use to create reports that provide them with a comprehensive overview of all the information they need to make decisions ranging from daily minutiae to top-level strategy. Today's management information systems rely