

ONLINE ACTIVITY-BASED MANAGEMENT
SYSTEM FOR AN OUTSOURCING COMPANY

A Thesis
Presented to the Graduate Faculty of the
Department of Computer Science
University of San Carlos
Cebu City, Philippines

In Partial Fulfillment
of the Requirements for the Degree
MASTER OF SCIENCE IN INFORMATION TECHNOLOGY

by
GRETCHEN P. LEYSON
February 2012

TABLE OF CONTENTS

CHAPTER	TITLE	PAGE
	ACKNOWLEDGEMENT.....	iv
	ABSTRACT	v
1	THE PROBLEM AND ITS SCOPE	1
	Rationale of the Study.....	1
	Theoretical Background.....	4
	Related Literature	15
	Statement of the Problem.....	18
	Scope and Limitation.....	18
	Significance of the Study.....	19
	RESEARCH METHODOLOGY	20
	Research Design	20
	Research Environment.....	21
	Research Respondents	21
	Research Instruments	22
	Research Procedures.....	23
	DEFINITION OF TERMS.....	27
2	PRESENTATION AND ANALYSIS OF ACTIVITY-BASED MANAGEMENT SYSTEM FOR AN OUTSOURCING COMPANY	30
	Level of usefulness	33
	Efficiency and Effectiveness in Generating Reports	33
	ABMS Model based on the review of existing ABMS.....	35
	Function List.....	37

3	DESIGN, DEVELOPMENT AND INTEGRATION OF ABMS	46
	Screen Design	46
	Screen Flow	53
	Database Design.....	55
4	IMPLEMENTATION, TESTING AND EVALUATION OF ONLINE ACTIVITY-BASED MANAGEMENT SYSTEM	59
	Software Architecture.....	59
	Hardware and Software Requirements	60
	Testing and Evaluation	61
	System Test Cases	66
	Chart Test Cases.....	66
	PDF Report Test Cases	66
	General Evaluation of Test Results.....	66
	User Acceptance Test Results.....	67
5	SUMMARY, FINDINGS, CONCLUSIONS AND RECOMMENDATIONS	72
	Summary	72
	Findings.....	73
	Conclusions.....	74
	Recommendations	74
	BIBLIOGRAPHY.....	76
	APPENDICES	79
	APPENDIX A	79
	APPENDIX B	80
	APPENDIX C	82
	APPENDIX D	83
	APPENDIX E	84
	APPENDIX F	85
	APPENDIX G	86

LIST OF FIGURES

FIGURE NO.	TITLE	PAGE
FIGURE 1.1	Project Management Flow Diagram.....	9
FIGURE 1.2	Manual ABMS Weekly Sheet	10
FIGURE 1.3	Manual ABMS Summary Sheet.....	11
FIGURE 1.4	Relationship Cardinality.....	14
FIGURE 2.1	ABMS Activity Diagram.....	39
FIGURE 2.2	Admin Side Comparison of Manual and Automated Process.....	41
FIGURE 2.3	User Side Comparison of Manual and Automated Process	42
FIGURE 2.4	ABMS Use Case Diagram.....	43
FIGURE 2.5	ABMS Entity Relation Model.....	44
FIGURE 2.6	ABMS Entity Relationship Diagram	45
FIGURE 3.1	Login Page	46
FIGURE 3.2	Time Record Form.....	47
FIGURE 3.3	Summary Page.....	48
FIGURE 3.4	Monthly Report Selection Page	49
FIGURE 3.5	Monthly Report Page	50
FIGURE 3.6	Control Chart per Employee Selection Page	51
FIGURE 3.7	Control Chart per Employee Page	52
FIGURE 3.8	Monthly Report	52
FIGURE 3.9	Per Employee Report	52
FIGURE 3.10	Screen Flow Diagram	53
FIGURE 4.1	Client-Server Model	59

LIST OF TABLES

TABLE NO.	TITLE	PAGE
TABLE 1.1	Hypothetical Mean Range for the Level of Satisfaction	26
TABLE 2.1	Satisfaction on the manual ABMS in terms of usefulness	30
TABLE 2.2	Satisfaction on the manual ABMS in efficiency of generating reports	30
TABLE 2.3	Satisfaction on the manual ABMS in effectiveness of generating reports ...	31
TABLE 2.4	Presentation and Analysis of the existing ABMS	31
TABLE 2.5	Presentation and Analysis of the need to Automate the existing ABMS	34
TABLE 3.1	Employee Table	55
TABLE 3.2	Project Table	56
TABLE 3.3	Task Table.....	56
TABLE 3.4	Miscellaneous Table	57
TABLE 3.5	Task Detail Table	58
TABLE 4.1	System Test Case Results	64
TABLE 4.2	Chart Test Case Results.....	64
TABLE 4.3	PDF Report Test Case Results	65
TABLE 4.4	Test results comparison between manual and automated reports.....	67
TABLE 4.5	Satisfaction on online ABMS in terms of usefulness.....	68
TABLE 4.6	Satisfaction on online ABMS in efficiency of generating reports.....	68
TABLE 4.7	Satisfaction on online ABMS in effectiveness of generating reports	69
TABLE 4.8	Presentation and Analysis of the online ABMS	69
TABLE 4.9	Efficiency and Accessibility of the online ABMS.....	71

ACKNOWLEDGEMENT

Several people gave invaluable assistance for the successful completion of this book. Words of thanks may not be enough for the efforts they exerted in helping the researchers. Nevertheless, the researcher would like to express her profound gratitude to the following people:

To Marian R. Sionzon, MBA, the very knowledgeable and accommodating research adviser, for her expertise, patience, guidance, suggestions and recommendations that made this book as something the researcher is truly proud of.

To Jacqueline F. Yara, MS, Rosana J. Ferolin, M Eng and Engr. Edilberto Paradela, the thesis committee, for their immense knowledge, encouragement and insightful comments.

To the respondents who took time to evaluate the system and answer the questionnaire.

Acknowledgement would not be complete without the support of the family and friends of the researcher whose inspirations, understanding, love and cooperation have greatly lightened the task of writing this book.

Most importantly, to our Lord Almighty, for the strength, the courage, the bounty and the divine guidance that kept the researcher moving especially during those very difficult and depressing moments.

And to all who have, in one way or another, helped the researcher complete this book, the researcher is deeply grateful.

THE RESEARCHER

ABSTRACT

The purpose of this study was to develop an online system for managing an activity-based management system for an outsourcing company with the end view of implementing the system to ensure accurate and on time reports. Qualitative method of research was applied. A survey was carried out to review the existing activity-based management system. Online questionnaires were sent out and responses from 50 employees were received. The results of the study revealed that majority of the users were not satisfied with the manual system. It showed that the manual system was not systematic. It was discovered that process of generating activity reports from the manual system was inefficient and provided effective information. The principal conclusion indicated that it was necessary to develop an online system for managing an activity-based management system. The system significantly reduced inaccuracies and delays in submission. Based on the general evaluation of the system, 88 percent of the users found the generation of reports efficient and 96 percent found the recording of hours worked efficient. With regards to the accessibility of the online activity-based management system, 97 percent of the users were satisfied to its accessibility. The online system was therefore useful and provided effective information to decision makers.