

PERFORMANCE EVALUATION AND LEAVE HANDLING SYSTEM FOR METROPOLITAN COMPUTERS (PVT) LIMITED

I.H.W.K.DE SILVA

Registration No: 4/10010



University of Moratuwa, Sri Lanka.
Electronic Theses & Dissertations
www.lib.mrt.ac.lk

Dissertation is submitted to the Faculty of Information Technology, University of Moratuwa, Sri Lanka for the partial fulfillment of the requirements of the Degree of MSc in Information Technology.

November 2009

**PERFORMANCE EVALUATION AND LEAVE
HANDLING SYSTEM FOR METROPOLITAN
COMPUTERS (PVT) LIMITED**

I.H.W.K.DE SILVA

Registration No: 4/10010



University of Moratuwa, Sri Lanka.
Electronic Theses & Dissertations
www.lib.mrt.ac.lk

Faculty of Information Technology
University of Moratuwa

November 2009

Declaration

I declare that this dissertation does not incorporate, without acknowledgment, any material previously submitted for a Degree or a Diploma in any University and to the best of my knowledge and belief, it does not contain any material previously published or written by another person or myself except where due reference is made in the text. I also hereby give consent for my dissertation, if accepted, to be made available for photocopying and for interlibrary loans, and for the title and summary to be made available to outside organization.

Name of Student: I.H.W.K.De Silva



University of Moratuwa, Sri Lanka.
Electronic Theses & Dissertations
www.lib.mrt.ac.lk

Signature of Student

Date:

Supervised by

Name of Supervisor: Dr. Gamini Wijayarathna

Signature of Supervisor

Date:

Dedication

Affectionately Dedicated to
My Loving Parents, Sisters
& Brother




University of Moratuwa, Sri Lanka.
Electronic Theses & Dissertations
www.lib.mrt.ac.lk

ACKNOELEDGEMENT

I am pleased to hereby acknowledge with the deepest sense of gratitude to my supervisor Dr.Aijith Madurapperuma, senior lecturer, Faculty of Information and Technology, University of Moratuwa who provided me the opportunity to undertake this study. His genuine guidance, constructive criticism is highly appreciated.

I am deeply indebted to my co-supervisor Dr. Gamini Wijayarathna, senior lecturer, Department of Industrial Management, University of Kelaniya, who accepted the supervision of my project with out any hassle. His stimulating suggestions, encouragement, guidance, listening, advising, allocating his valuable time for me and encouragement from the analyzing and completion of this project is priceless. His commitment and ability to understand individual capacity is beyond a supervisor.

I would like to extend my deepest thanks to Mr.Firdhouse, Lecturer, Faculty of Information and Technology, University of Moratuwa. His guidance, constructive criticism is highly appreciated.

 I wish to express my deepest gratitude to CEO, Metropolitan Computers (pvt) Limited, 85, Braybrooke Place, Colombo 02, for providing me the opportunity to conduct this study in the office of Metropolitan Computers (pvt) Limited, 85, Braybrooke Place, Colombo 02.

I will be failing in my duty if I do not thank the staff of the Metropolitan Computers (pvt) Limited, 85, Braybrooke Place, Colombo 02 who helped me in various ways.

I also wish to record my thanks and affection to all my dear colleagues and specially Mr. N.M.S.A. Bandara at Sri Lanka Institute of Development Administration, Mr.Nandaka Aluthwala at Homagama and Mr.Wickrama at Sri Lanka Standards Institution who helped me in various ways during the completion of thesis.

Abstract

Metropolitan Group is one of the well known corporate entities in Sri Lanka. Metropolitan Computers (pvt) Limited is fully owned subsidiary of the Metropolitan Group.

Human Resource department at the Metropolitan Computers (Pvt) Limited handles various functions related to human resource management from recruiting to till retirement of people who are working there.

A few of those functions are evaluation of performance, allocating and evaluating of Key Result Area (key performance indicators), capturing of training requirements at the performance evaluation (appraiser and appraisee-180 degree evaluation), allocating increment and issuing increment letter to the workforce and applying of leaves. All these are handled through paper based forms and formats through various people such as Chief executive officer and departmental heads etc.

The current system is not efficient enough to cater to the increasing demand of data and information required for decision making to the management. Hence it is suggested to apply a web based computerized solution for evaluating performance from appraisee, appraiser, peer and subordinate (360 degree evaluation). This is started by the appraiser who are either department heads or chief executive officer, Four different kinds of web based forms are used to gather the information, they are appraiser form, appraisee form, peer form and subordinate form. Allocation of key result area is done through a web based form by the departmental head or chief executive officer and evaluation of same is also done on the same form. With this total average point is derived. Based on this total average points and also departmental score and increment amount provided by the chief executive officer via a web based form, increment for individual is calculated, it is also a web based form. Handling of leave system was also developed on a web based form with validation of data fields and approval and rejection also can be handled by the system. Emails are generated through the system for leave approval or rejection and notification of performance evaluation.

WAMP; Windows, Apache, MySql and PHP software was used with Java script and HTML to implemented system which was tested and evaluated. This system satisfies the requirements of management and it is ready to use as these are free software.

Contents

	Page
Declaration.....	I
Dedication.....	II
Acknowledgement.....	IV
Contents.....	V
List of Figures	IX
List of Tables.....	X
List of acronyms and abbreviations.....	XI
Chapter 1.- Introduction.....	1
1.1.Preamble.....	1
1.2.Background of the Organization.....	1
1.3 Existing System.....	3
1.3.1 Human Resource Management.....	3
1.3.1.1 Evaluating of Performance.....	4
1.3.1.2 Allocating of Key Result Area (KRA) and evaluation.....	7
1.3.2 Allocating Increment.....	8
1.3.3Appling of Leaves.....	10
1.4 Selecting the project.....	11
1.5 Project Goals.....	12
1.6. System Requirements.....	13
1.7 Various Application of Web Based Solution.....	14
1.8. Structure of the Thesis.....	16
1.9. Summary.....	17
Chapter 2. – Problem Domain.....	18
2.1 Preamble.....	18
2.2 Existing System.....	18
2.2.1 Evaluating Performance	18
2.2.2 Key Result Area (KRA).....	21
2.2.3 Increment.....	24
2.2.4 Appling of Leaves.....	25
2.3Problems and Weaknesses of the existing system.....	28
2.3.1. High Cycle time.....	28
2.3.2. Document misplace.....	28
2.3.3. Strenuous Follow up activities.....	28
2.3.4. High Usage Time for calculation of Increment.....	28

2.3.5. Updating or deletion of Key Result Area.....	28
2.3.6. Low Efficiency.....	28
2.4 Summary.....	29
Chapter 3. – Technology Adopted	30
3.1 Preamble.....	30
3.2 Software Process Models.....	30
3.2.1 Waterfall Model.....	30
3.2.2 Evolutionary Development Model.....	32
3.2.2.1 Exploratory development.....	32
3.2.2.2 Throw-away prototyping.....	33
3.2.3 Component Based Software Engineering.....	33
3.3 System Analysis and Design Methodology.....	34
3.3.1 Object Oriented Analysis & Design (OOAD).....	34
3.3.1.1 Object Oriented Analysis.....	34
3.3.1.2 Object Oriented Design (OOD).....	34
3.3.2 Structured System Analysis and Design Methodology (SSADM).....	34
3.4 Unified Modeling Language (UML).....	35
3.5 Development Environment.....	36
3.5.1 LAMP.....	36
3.5.2 WAMP.....	36
3.5.3 Client side Scripting.....	40
3.6 Summary.....	40
Chapter 4 – My Approach.....	41
4.1. Preamble.....	41
4.2 Software model for proposed system.....	41
4.3 Selection of Design Methodology.....	42
4.4 Unified Modeling Language.....	43
4.5 Database Management Systems (DBMS).....	44
4.6 WAMP.....	45
4.7 Supporting software.....	46
4.8 Scope of the project.....	46
4.9 Constraint of the Scope.....	46
4.10 Summary.....	46
Chapter 5 – Analysis and Design.....	47

5.1 Preamble.....	47
5.2 Information Collecting on Existing system.....	47
5.2.1 Existing requirements.....	47
5.3 Analysis and Design of the Existing System.....	48
5.3.1 Use case description of Performance Evaluation.....	49
5.3.2 Use case description of Allocating Key Result Areas.....	50
5.3.3 Use case description of Allocating Increment.....	51
5.3.4 Use case description of Applying Leave.....	53
5.4. Grammatical Analysis for the Existing System.....	54
5.5 Analysis and Design of the Proposed System.....	56
5.5.1 Use case description of Logging users for proposed system.....	57
5.5.2 Use case description of Performance Evaluation for proposed system.....	58
5.5.3 Use case description of Allocating Key Result Areas for proposed system.....	60
5.5.4 Use case description of Allocating Increment for proposed system.....	62
5.5.5 Use case description of Applying Leave for proposed system.....	64
5.5.6 Use case description of Managing Users for proposed system.....	65
5.5.7 Use case description of Activating/Inactivating forms for proposed system.....	67
5.6 Database design.....	68
5.7 Graphical User Interface Design.....	69
5.7.1 Development of GUIs.....	69
5.8. Difficulties Encountered during Development.....	70
5.9 Summary.....	71
Chapter 6- Implementation.....	72
6.1. Preamble.....	72
6.2. Software Installation.....	72
6.3 Supporting Tools and Packages.....	72
6.4 Database properties.....	73
6.5 Control Access to the System.....	73
6.6 Session Variable.....	73
6.7 User Level.....	73
6.8 System Implementation.....	74
6.8.1 Evaluating performance.....	74
6.8.2 Allocation of Key Result Area.....	75
6.8.3 Allocation of Increment.....	75
6.8.4 Applying of Leave.....	75
6.9 Summary.....	75
Chapter 7– Evaluation and Testing.....	76

7.1 Preamble.....	76
7.2 Accessing the system.....	76
7.3 Proposed system.....	76
7.4 Analysis of Test Cases.....	77
7.5 Testing of software.....	77
7.6. List of test cases.....	78
7.7 System Appraisal.....	78
7.8 Summary.....	80
Chapter-Conclusion and Further Works.....	81
8.1 Preamble.....	81
8.2 Objectives.....	81
8.3 Further works.....	83
8.4 Summary.....	84
References.....	85
Appendix-I.....	87
Appendix-II.....	88
Appendix-III.....	90
Appendix-IV.....	93
Appendix-V.....	94
Appendix-VI.....	95
Appendix-VII.....	98
Appendix-VIII.....	103
Appendix-IX.....	108
Appendix-X.....	130
Appendix-XI.....	131
Appendix-XII.....	132
Appendix-XIII.....	137
Appendix-XIV.....	151
Appendix-XV.....	152
Appendix-XVI.....	171
Appendix-XVII.....	175

List of acronyms and abbreviations

1. IR Image Runner
2. MCPL Metropolitan Computer (Private) Limited
3. ERP Enterprises Resource Planning
4. HR Human Resources
5. KRA Key Result Area
6. E.P.F# Employee Provident Fund Number
7. CEO Chief Executive Officer
8. WAMP Windows Apache MySql PHP
9. LAMP Linux Apache MySql PHP



University of Moratuwa, Sri Lanka.
Electronic Theses & Dissertations
www.lib.mrt.ac.lk

LIST OF FIGURES

	Page
Figure 1.1: An overview of HR department s	4
Figure 1.2: Activities involving when performing performance evaluation	6
Figure 1.3: Activities involving allocating KRAs and evaluation.....	8
Figure 1.4: Activities involving allocating increment	10
Figure 1.5: Activities involving in applying leave via leave application	11
Figure 2.1: Steps involves in Performance evaluation by appraiser and apprasiee.....	21
Figure 2.2: Steps involving allocating and evaluating of Key Result Are....	23
Figure 2.3: Steps involves in allocating increment.....	25
Figure 2.4: Steps involves in applying leaves by an applicant.....	27
Figure 3.1 Waterfall Model	31
Figure 3.2 Evolutionary Development Model	32
Figure 3.3 Example of component based software engineering	33
Figure 4.1: Overview of “waterfall Model”	42
Figure 4.2: Diagram Types of UML	44
Figure 5.1: Use case diagram for existing system.....	48
Figure 5.2: Use case view for proposed system.....	56

LIST OF TABLES

	Page
Table 3.1 : Features of MySQL databases.....	39
Table4.1:Comparsion of different DBMS	45
Table 5.1: Grammatical analysis of the existing system.....	54
Table 5.2:Use case checklist for the proposed system.....	69
Table7.1. Assessment values in percentages for all users	79



University of Moratuwa, Sri Lanka.
Electronic Theses & Dissertations
www.lib.mrt.ac.lk