

Productivity Measuring System for Sri Lankan Plant of Noratel Group

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of the Degree of MSc in Information Technology.

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Declaration

I declare that this dissertation does not incorporate, without acknowledgement, 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.

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Dedication

To my loving parents,
whose lifelong ambition is to educate their children
to reach the pinnacle of education



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Acknowledgement

It is my greatest pleasure to pay my sincere gratitude towards all those who supported me in numerous ways to complete this project successfully.

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Abstract

Productivity is one of the major concerns in businesses that has to be measured and monitored, in order to meet manufacturing challenges and achieve a high standard of quality with superior results.

Noratel - Sri Lanka, under the Scandinavian based Noratel Holdings is an ISO certified company, which manufactures Toroidal transformers and chokes for a wide range of applications. Company is now facing fierce competition in the market and is becoming less competitive day by day. There are many factors around this result/outcome and organizational labour productivity is one of the key components. Non- availability of an effective labour productivity measuring system has been one of the key issues of the organization.

Labour component of the cost of production has been identified as the most sensitive portion to be evaluated in order to decrease the cost of production and to face the fierce competition successfully. Hence productivity based monthly incentive scheme was introduced. Shift wise daily production outputs including the timing for each and every operations of the production process were recorded and the recorded heavy data volume was input to the software application which was developed for measuring and monitoring the productivity.

Structured System Analysis and Design Methodology was used with the Rapid Application Development process model for developing the application. All the features that were required for entering data easily, fastly and accurately were implemented in the system. Further, data validation rules were implemented in all the areas where applicable in order to ensure the accuracy of the entered data and the system outputs. All the expected outputs were generated successfully through the software application and users were very much happy about the user friendliness of the system. Providing online information in multi user environment was one of another important achievement.

Employees were rewarded based on their productivity and based on the predefined productivity benchmark values. After implementing the system, it was monitored that the productivity of production lines were gradually improving and monthly sales turnover also was gradually increasing while decreasing the cost of production. Graphically analyzing tool was a very much useful tool for monitoring trends of changes of productivity and making decisions.

Table of Contents

	Page
Title	i
Declaration	ii
Dedication	iii
Acknowledgement	iv
Abstract	v
Table of Contents	vi
List of Figures	xi
List of Tables	xii
Appendix	xiii
Abbreviations	xiv
Chapter 1 - Introduction	
1. Introduction	1
1.1 Introduction	1
1.2 Organization	1
1.3 Problem Domain and Motivation	2
1.4 Aim and objectives of the proposed system	3
1.5 Solution	3
1.6 Scope of the project	6
1.7 Structure of the dissertation	6
1.8 System Requirements and Technology	7
1.9 Summary	8
Chapter 2 – Problem Domain	
2. Problem Domain	9
2.1 Introduction	9
2.2 More about the existing System	9
2.3 Weaknesses of the Existing System	10
2.4 Why proposed application is needed	10
2.5 Summary	11
Chapter 3 – Technology Adapted	
3. Technology Adapted	12
3.1 Introduction	12

3.2 Software Process Models	13
3.2.1 Waterfall Model	13
3.2.1.1 Phases of the Waterfall Model	14
3.2.1.2 Advantages of Waterfall Model	15
3.2.1.3 Weaknesses of Waterfall Model	15
3.2.2 Evolutionary Development	16
3.2.2.1 Evolutionary Prototyping	17
3.2.2.2 Throw-away Prototyping	17
3.2.2.3 Advantages of Evolutionary Development	17
3.2.2.4 Weaknesses of Evolutionary Development	18
3.2.3 Component-Oriented Development	18
3.2.3.1 Process Stages	18
3.2.4 Process Iteration	19
3.2.4.1 Incremental Development	19
3.2.4.2 Advantages of Incremental Development	20
3.2.4.3 Weakness of Evolutionary Development	20
3.2.4.4 Spiral Development	20
3.2.4.5 Advantages of Spiral Development	22
3.2.4.6 Weaknesses of Spiral Development	22
3.2.5 Rapid Application Development	22
3.2.5.1 Advantages of Rapid Application Development	22
3.2.5.2 Weaknesses of Rapid Application Development	23
3.3 Software Analysis and Design Methodologies	24
3.3.1 Structured System Analysis and Design Methodologies	25
3.3.2 Object Oriented System Analysis and Design Methodologies	26
3.3.3 Unified Modeling Language (UML)	29
3.4 Database Technology	30
3.4.1 Relational Data Base Management Systems (RDBMS)	30
3.4.2 Normalizing Databases	30
3.4.3 Securing Databases	31
3.5 Windows Forms and Web Forms	32
3.5.1 When to use Windows Forms	32
3.5.2 When to use Web Forms	33
3.6 Summary	33

Chapter 4 - Approach

4. Approach	34
4.1 Introduction	34

4.2 Selected Software Process Model and Justification	34
4.3 Selected Analysis and Design Methodology	36
4.4 Selected Application Development Environment	37
4.4.1 Selected Database Technology	37
4.4.2 Selected Programming Method	39
4.4.3 Selected Programming Language	39
4.4.4 Selected Reporting Tool	40
4.5 Selected Operating System	40
4.6 Summary	41

Chapter 5 – System Analysis and Design

5. System Analysis and Design	42
5.1 Introduction	42
5.2 System Investigation	43
5.2.1 Requirement Gathering	43
5.2.2 Functional and Non Functional Requirement	43
5.2.2.1 Functional Requirement	43
5.2.2.2 Non Functional Requirement	45
5.2.3 Software Requirement Specification of the Proposed System	45
5.3 Business Activity Model of the Existing System	46
5.4 Data Flow Diagrams	48
5.4.1 Context Diagram of the Existing System	48
5.4.2 Level 1 DFD of the Existing System.	49
5.5 Business System Options (BSOs)	51
5.6 Feasibility Study	55
5.6.1 Technical Feasibility.	55
5.6.2 Operational Feasibility.	56
5.6.3 Economic Feasibility	56
5.7 Selected BSO and Justification	56
5.8 DFDs of the Proposed System	57
5.8.1 Context Diagrams of the Proposed System	57
5.8.2 Level 1 Data Flow Diagrams of the Proposed System	58
5.9 Architectural Design of the System	60
5.10 Database Design	61
5.10.1 Logical Data Structure	61
5.10.2. Relation Ship Diagram	63
5.11 Graphical User Interface (GUI) Design	64
5.12 Summary	65

Chapter 6 - Testing and Implementation

6. Testing and Implementation	66
6.1 Introduction	66
6.2 Testing	66
6.2.1 Testing Methods and Comparison	67
6.2.1.1 Black Box Testing	67
6.2.1.2 White Box Testing	67
6.2.1.3 Comparison - Black Box Vs White Box Testing	67
6.2.1.4 Performance Testing	68
6.2.1.5 Boundary Testing	68
6.2.2 Testing Strategy and Test Plan	69
6.2.3 Test Cases	70
6.2.4 Test Report	73
6.3 Implementation	74
6.3.1 Implementation Strategy	74
6.3.2. User Training	77
6.3.3. User guide	77
6.3.4 Program Deployment	77
6.3.5 Problems Faced	77
6.4 Sample User Interfaces	78
6.5 Summary	81

Chapter 7 - Evaluation

7. Evaluation	82
7.1 Introduction	82
7.2 Evaluation	82
7.2.1 Usability Evaluation	82
7.3. Understandability	83
7.4. Learnability	83
7.5 Installability	84
7.6 Testing for Functional and Non Functional Requirements	84
7.7 Summary	85

Chapter 8 - Conclusion and Further work	
8. Conclusion and Further work	86
8.1 Introduction	86
8.2 Conclusion	86
8.3 Limitations and Further Work	87
8.3.1 Limitations	87
8.3.2 Further work	88
References	89



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List of Figures

Figure	Page
Figure 1.1 - Company Structure	2
Figure 3.1 – Phases of Waterfall Model	14
Figure 3.2 - Evolutionary Development Process	16
Figure 3.3 – Component-Oriented Development Process	19
Figure 3.4 – Iteration Process	20
Figure 3.5 – Spiral Development Model	21
Figure 3.6 – Stages in building a Software System	24
Figure 5.1 – Business Activity Model of the Existing System	47
Figure 5.2 - Context Diagram of the Existing System	49
Figure 5.3 - Level 1 DFD of the Existing System	50
Figure 5.4 – Visual Representation of BSO I	51
Figure 5.5 – Visual Representation of BSO II	53
Figure 5.6 - Context Diagram of the Proposed System	57
Figure 5.7 - Level 1 DFD of the Proposed System	59
Figure 5.8 - Architectural Design of the Proposed System	60
Figure 5.9 – System Development Life Cycle	61
Figure 5.10 - Logical Data Structure	62
Figure 5.11 - Relation Ship Diagram	63
Figure 6.1 – Phase Implementation Process	74
Figure 6.2 – User Interface of Main Menu Screen	78
Figure 6.3 - User Interface of Transformer Timing Data Entering	79
Figure 6.4 - User Interface of Timing Sheet Report	49
Figure 6.5 - User Interface of Productivity Bonus Report	80
Figure 6.6 - User Interface of Management Dash Board	80

List of Tables

Table	Page
Table 4.1 – System Nature Vs Best software Process	34
Table 6.1 – Black Box Vs White Box Testing	68
Table 6.2 - Test Case for Test ID 1	70
Table 6.3 - Test Case for Test ID 2	71
Table 6.4 - Test Report	73
Table 6.5 – Comparison of Software Implementation Methods	75



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Appendixes

- Appendix A**..... Benchmark Productivity Percentages
- Appendix B**..... Key Result Areas of the Employee Performance Evaluation of previous system
- Appendix C**..... Performance Evaluation Slip
- Appendix D**..... Level 2 DFD of Existing System
- Appendix E**..... Comparison Report of BSO I and BSO II
- Appendix F**..... Level 2 DFD of Proposed System
- Appendix G**..... User Interfaces of Proposed System



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Abbreviations

BOM	– Bill of Materials
BSO	– Business Solution Options
CD	- Compact Disk
Dept	– Department
DFD	– Data Flow Diagrams
DLL	– Dynamic Link Library
E & CR	– Engineering & Customer Relation
ERP	– Enterprise Resource Planning
HR	– Human Resources
LAN	– Local Area Network
LDS	– Logical Data Structure
MC	– Machine
MIS	– Management Information Systems
PO	– Purchase Order
PPD	– Production Process Development
Prod	– Production
RAD	– Rapid Application Development
SDLC	– System Development Life Cycle
SSADM	– Structured System Analysis and Designing Methodologies