

**INTEGRATED INVENTORY WITH PROCUREMENT AND PRODUCTION
MANAGEMENT SYSTEM**



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Integrated Inventory with Procurement and Production Management System

ABSTRACT

PT. Printec Perkasa, a large-scale manufacturing company under the Sansico Group, faced substantial challenges in inventory traceability and data integration between production, procurement, and warehousing. This study aimed to develop a web-based inventory traceability system capable of real-time monitoring of inventory activity for raw materials (RM), work-in-process (WIP), and finished goods (FG).

This system was developed using the Waterfall methodology, with Next.js and MongoDB as the core technology stack. QR code technology was implemented to enhance real-time traceability and minimize human error.

The study found that this system improved stock visibility, reduced anomalies, and enhanced interdepartmental coordination. The system also automatically tracked inventory movements, simplifying reporting.

This solution significantly contributed to maximizing operational hours without wasting time and effort, and provided accurate data inventory, and facilitate the creation of monthly or annual inventory reports.

Keywords: Inventory Traceability, Web-Based System, QR Code, Waterfall, Manufacturing

TABLE OF CONTENTS

	Page
DEDICATION	ii
ACKNOWLEDGMENTS	iii
LIST OF TABLES	viii
LIST OF FIGURES	ix
I. INTRODUCTION	11
1.1 Background of the study	11
1.2 Problem Functional Analysis	13
1.2.1 Functionalities 1: Real-Time Inventory Management Traceability	13
1.2.2 Functionalities 2: Standardized Transfer Rules Between Warehouses	13
1.2.3 Functionalities 3: Tracking Raw Material Receipt	13
1.3 Solution Usage Scenarios	14
1.3.1 Scenario of Warehouse Transfers and Real-Time	14
1.4 Solution Selection	14
II. SYSTEM & LITERATURE OVERVIEW	16
2.1 Literature Review	16
2.1.1 Inventory Management and Traceability	16
2.1.2 QR Code Technology in Inventory	17
2.1.3 Web based and Real-Time Inventory Systems	17
2.2 Existing Business Process	18
2.3 Proposed Business Process	20
2.4 Functional Description	21
2.4.2 Alur Interaksi Aktor dengan Use Case	21
2.5 Data Requirement from user's perspective	22
2.5.2 ERD material	23
2.5.3 ERD warehouse_master	23
2.5.4 ERD locator_master	24
2.5.5 ERD Inv_finish_good	25
2.5.6 ERD Inv_raw_material	25
2.5.7 ERD inv_wip_production	26
2.5.8 ERD printec_wh_log	26

2.6	Functional Requirement from user's perspective	27
2.6.1	The system can schedule and display production scheduling	27
2.6.2	The system provides a part scanner to retrieve detailed part information	27
2.6.3	The system can display real-time part identification	27
2.6.4	The system can track inventory movement and stock levels	28
2.7	Non-Functional Requirement	28
III.	SYSTEM DESIGN	29
3.1	Context Diagram & Data Flow Diagram (DFD)	29
3.1.1	Context Diagram	29
3.1.2	Data Flow Diagram (DFD)	30
3.2	Global Variables	31
3.3	Verification Demonstration and Proof Design Process	32
4.1	Functions/Procedure/Class implementation	33
4.1.1	Functions	33
4.1.1.1	Inventory RM, WIP, FG	33
4.2	Database Implementation	39
4.2.1	Table Schema Inventory	39
4.2.1.1	Schema Table Raw Material	39
4.2.1.2	Schema Table Production	40
4.2.1.3	Schema Table Finish Goods	41
4.2.1.4	Schema Table Log Activity	42
4.2.1.5	Schema Table Locator Master	43
4.2.1.6	Schema Table Warehouse Master	44
4.3	User Interface Implementation	45
4.3.1	Login Page	45
4.3.2	Print QR Code	46
4.3.2.1	Print QR Code Raw Material	46
4.3.2.2	Print QR Code Production	47
4.3.2.3	Print QR Code Finish Goods	49
4.4	Integration Among Every Module	51
4.4.1	Login	51
4.4.2	Register	54
4.4.3	Print QR Code Raw Material	58
4.4.4	Print QR Code Production	61
4.4.5	Print QR Code Finish Goods	64
4.5	Implementation Verification	67
4.6	Components Cost Analysis	73
4.7	MANUAL GUIDE	74
4.7.1	System Build Documentation From The Source	74
4.7.1.1	Install Web Server and MongoDB	74

4.7.1.2	Configure Web Server	75
4.7.1.3	Clone Web Application	76
4.7.1.4	Configure Environment Variables	77
4.7.1.5	Build Application	78
4.7.1.6	Start Application	78
4.7.1.7	System Installation	79
4.7.2	Video Demonstration	79
4.7.2.1	Integrated Inventory with Procurement and Production Management System	79
IV.	CONCLUSION AND RECOMMENDATION	80
5.1	Problem Formulation	80
5.2	Conclusion	81
5.3	Recommendation	82
REFERENCES		83
User interface		84

LIST OF TABLES

TABLE	Page
Table 1 Solution Selection	14
Table 2 Table ERD material	23
Table 3 Table warehouse_master	23
Table 4 Table locator_master	24
Table 5 Table finish_good	25
Table 6 Table inv_raw_material	25
Table 7 Table inv_wip_production	26
Table 8 Table printec_wh_log	26
Table 9 Table Non-Function Requirement	28
Table 10 ERD inv_raw_material	39
Table 11 ERD inv_wip_production	40
Table 12 ERD inv_finsih_good	41
Table 13 ERD printec_wh_log	42
Table 14 ERD locator_master	43
Table 15 ERD warehouse_master	44
Table 16 Impementation Verification	67
Table 17 Cost Analysis	73

LIST OF FIGURES

FIGURE	Page
Figure 2.21 Existing Business Process	18
Figure 3.11 Context Diagram	29
Figure 3.12 Data Flow Diagram (DFD)	30
Figure 4.11 Data Flow Diagram Inventory RM, WIP, FG	33
Figure 4.12 scan_rm/page.js	33
Figure 4.13 components/ScanTableRm.js	34
Figure 4.14 api/submitRecordsRm	34
Figure 4.15 scan_prd/page.js	35
Figure 4.16 ScanTablePrd.js	35
Figure 4.17 api/submitRecordsPrd	36
Figure 4.18 scan_fg/page.js	36
Figure 4.19 ScanTable.js	37
Figure 4.110 api/submitRecords	37
Figure 4.21 Inv_Raw_Material schema	39
Figure 4.22 inv_wip_production Schema	40
Figure 4.23 Schema Table Finish Goods	41
Figure 4.24 Schema printec_wh_log	42
Figure 4.25 Schema Table Locator Master	43
Figure 4.26 Schema Table Warehouse Master	44
Figure 4.31 Login Page	45
Figure 4.32 Print QR Code Raw Material	46
Figure 4.33 Result Print QR Code	46
Figure 4.34 Download or Print QR Code	47
Figure 4.35 Print QR Code Production	47
Figure 4.36 Result Print QR Code	48
Figure 4.37 Download or Print QR Code	48
Figure 4.38 Print QR Code Finish Goods	49
Figure 4.39 Result Print QR Code	49
Figure 4.310 Download or Print QR Code	50
Figure 4.41 Login	51
Figure 4.42 api/auth/	52
Figure 4.43 auth/register	54
Figure 4.44 api/register	55
Figure 4.45 print/print_rm	58
Figure 4.46 components/TemplateRm	58
Figure 4.47 components/QRCodeGeneratorRm	59
Figure 4.48 print/print_prd	61
Figure 4.49 Components/QRCodeGeneratorPrd	62
Figure 4.410 components/QRCodeTemplatePrd	63
Figure 4.411 print/print_fg	64

Figure 4.412 components/QRCodeGeneratorFg	65
Figure 4.413 components/QRCodeGeneratorFg	66
Figure 4.71 Install MongoDB	74
Figure 4.72 Install MongoDB	75
Figure 4.73 NGINX	75
Figure 4.74 Config Web Server	76
Figure 4.75 Clone Git	76
Figure 4.76 Clone Git	77
Figure 4.77 5.1.4 Configure Environment Variables	77
Figure 4.78 Build Application	78
Figure 4.79 Start Application	78
Figure 4.710 System Installation	79
Figure 5.31 Home Page	84
Figure 5.32 Page Scan	84
Figure 5.33 Page Table Raw Material	85
Figure 5.34 Page Table WIP	85
Figure 5.35 Page Table Finish Good	85
Figure 5.36 Page Table Log Activity	86
Figure 5.37 Purchase List	86
Figure 5.38 Purcahse Request	87
Figure 5.39 Purchase Order List	87
Figure 5.310 Receivig	88
Figure 5.311 Form Receiving	88