

## GLOSSARY

**Packaging Manufacturer:** manufacturer that produces packaging products, usually the products can be requested by the customer according to the needs of the customer.

**Production Planning and Inventory Control:** process of planning and controlling the production and the inventory to make sure the production and the inventory fulfill the demand needs.

**Data Integration:** process of compiling several data into a system to increase the productivity of the users as well as enhance the visualization of the data.

**Web-Based Application:** application that can be accessed through the web, it also does a real time updating.

**Waterfall Methodology:** methodology for a system development that is developed through five phases such as requirement phase, design phase, implementation phase, testing phase, and maintenance phase.

**Black Box Testing:** functional Testing that has several activities to do, each of the activities has an expectation regarding the output of the activity and assess the validity by looking at the actual condition when the activity is tested.

**Data Flow Diagram:** depicts the operations, data repositories, and external entities in a company or other system.

**Use Case Diagram:** a strategy for identifying, clarifying, and organizing system requirements in system analysis.

## APPENDIX

### A. PPIC Department Black Box Testing

No.	Testing Activities	Expected Results	Testing Result	Approval
1	Click "DATE SETTINGS" option on main menu.	Move to "DATE SETTINGS" sheet.	As Expected	Valid
2	Input Date for the first bucket, second bucket, and holiday.	The date of the data is appeared on "DATA RM" sheet (Use side menu to search the data).	As Expected	Valid
3	Click "ACCEPTED FG" option on side menu.	Move to "ACCEPTED FG" sheet.	As Expected	Valid
4	Check the date on the "ACCEPTED FG" sheet.	The date of the data is appeared on "DATA RM" sheet.	As Expected	Valid
5	Click "REJECT FG & WIP" option on side menu.	Move to "REJECT FG & WIP" sheet.	As Expected	Valid
6	Check the date on the "REJECT FG & WIP" sheet.	The date of the data is appeared on "REJECT FG & WIP" sheet.	As Expected	Valid

No.	Testing Activities	Expected Results	Testing Result	Approval
7	Click “WORKERS AVAILABILITY” option on side menu.	Move to “WORKERS AVAILABILITY” sheet.	As Expected	Valid
8	Check the date on the “WORKERS AVAILABILITY” sheet.	The date of the data is appeared on “WORKERS AVAILABILITY” sheet.	As Expected	Valid
9	Click “PRODUCTION FG” option on side menu.	Move to “PRODUCTION FG” sheet.	As Expected	Valid
10	Check the date on the “PRODUCTION FG” sheet.	The date of the data is appeared on “PRODUCTION FG” sheet.	As Expected	Valid
11	Click “PRODUCTION WIP” option on side menu.	Move to “PRODUCTION WIP” sheet.	As Expected	Valid
12	Check the date on the “PRODUCTION WIP” sheet.	The date of the data is appeared on “PRODUCTION WIP” sheet.	As Expected	Valid
13	Click “PRODUCTION FINISH DATE” option on side menu.	Move to “PRODUCTION FINISH DATE” sheet.	As Expected	Valid

No.	Testing Activities	Expected Results	Testing Result	Approval
14	Check the date on the “PRODUCTION FINISH DATE” sheet.	The date of the data is appeared on “PRODUCTION FINISH DATE” sheet.	As Expected	Valid
15	Click “DATA PO & STOCK” option on side menu.	Move to “DATA PO & STOCK” sheet.	As Expected	Valid
16	Check the date on the “DATA PO & STOCK” sheet.	The date of the data is appeared on “DATA PO & STOCK” sheet.	As Expected	Valid
17	Click “WORKERS DEMAND” option on side menu.	Move to “WORKERS DEMAND” sheet.	As Expected	Valid
18	Check the date on the “WORKERS DEMAND” sheet.	The date of the data is appeared on “WORKERS DEMAND” sheet.	As Expected	Valid
19	Click “RAW MATERIAL STOCK” option on side menu.	Move to “RAW MATERIAL STOCK” sheet.	As Expected	Valid
20	Check the date on the “RAW MATERIAL STOCK” sheet.	The date of the data is appeared on “RAW MATERIAL STOCK” sheet.	As Expected	Valid

No.	Testing Activities	Expected Results	Testing Result	Approval
21	Click “PART PRODUCTION PLANNING” option on side menu.	Move to “PART PRODUCTION PLANNING” sheet.	As Expected	Valid
22	Check the date on the “PART PRODUCTION PLANNING” sheet.	The date of the data is appeared on “PART PRODUCTION PLANNING” sheet.	As Expected	Valid
23	Click “PRODUCTION JOB” option on side menu.	Move to “PRODUCTION JOB” sheet.	As Expected	Valid
24	Check the date on the “PRODUCTION JOB” sheet.	The date of the data is appeared on “PRODUCTION JOB” sheet.	As Expected	Valid
25	Click “JOBS SORTING” option on side menu.	Move to “JOBS SORTING” sheet.	As Expected	Valid
26	Check the date on the “JOBS SORTING” sheet.	The date of the data is appeared on “JOBS SORTING” sheet.	As Expected	Valid
27	Click “MC CUTT 1” option on side menu.	Move to “MC CUTT 1” sheet.	As Expected	Valid

No.	Testing Activities	Expected Results	Testing Result	Approval
28	Check the date on the “MC CUTT 1” sheet.	The date of the data is appeared on “MC CUTT 1” sheet.	As Expected	Valid
29	Click “MC CUTT 2” option on side menu.	Move to “MC CUTT 2” sheet.	As Expected	Valid
30	Check the date on the “MC CUTT 2” sheet.	The date of the data is appeared on “MC CUTT 2” sheet.	As Expected	Valid
31	Click “MC CUTT 3” option on side menu.	Move to “MC CUTT 3” sheet.	As Expected	Valid
32	Check the date on the “MC CUTT 3” sheet.	The date of the data is appeared on “MC CUTT 3” sheet.	As Expected	Valid
33	Click “CUTT POLA” option on side menu.	Move to “CUTT POLA” sheet.	As Expected	Valid
34	Check the date on the “CUTT POLA” sheet.	The date of the data is appeared on “CUTT POLA” sheet.	As Expected	Valid
35	Click “MEJA PACKING BUNGKUSAN” option on side menu.	Move to “MEJA PACKING BUNGKUSAN” sheet.	As Expected	Valid

No.	Testing Activities	Expected Results	Testing Result	Approval
36	Check the date on the “MEJA PACKING BUNGKUSAN” sheet.	The date of the data is appeared on “MEJA PACKING BUNGKUSAN” sheet.	As Expected	Valid
37	Click “ASSY AND PACKING JOB” option on side menu.	Move to “ASSY AND PACKING JOB” sheet.	As Expected	Valid
38	Check the date on the “ASSY AND PACKING JOB” sheet.	The date of the data is appeared on “ASSY AND PACKING JOB” sheet.	As Expected	Valid
39	Click “ASSY AND PACKING SORTING” option on side menu.	Move to “ASSY AND PACKING SORTING” sheet.	As Expected	Valid
40	Check the date on the “ASSY AND PACKING SORTING” sheet.	The date of the data is appeared on “ASSY AND PACKING SORTING” sheet.	As Expected	Valid
41	Click “OEE” option on side menu.	Move to “OEE” sheet.	As Expected	Valid
42	Check the date on the “OEE” sheet.	The date of the data is appeared on “OEE” sheet.	As Expected	Valid

No.	Testing Activities	Expected Results	Testing Result	Approval
43	Click “OEE (ON PROCESS)” option on side menu.	Move to “OEE (ON PROCESS)” sheet.	As Expected	Valid
44	Check the date on the “OEE (ON PROCESS)” sheet.	The date of the data is appeared on “OEE (ON PROCESS)” sheet.	As Expected	Valid
45	Input Delivery Data.	The delivery data is appeared and generate value on “DEMAND RECAP” sheet. (Use side menu to search the data)	As Expected	Valid
46	Click “PRODUCTION FINISH DATE” option on side menu.	Move to “PRODUCTION FINISH DATE” sheet.	As Expected	Valid
47	Check the data on the “PRODUCTION FINISH DATE” sheet.	The delivery data is appeared and generate value on “PRODUCTION FINISH DATE” sheet.	As Expected	Valid
48	Click “DATA PO & STOCK” option on side menu.	Move to “DATA PO & STOCK” sheet.	As Expected	Valid



No.	Testing Activities	Expected Results	Testing Result	Approval
49	Check the data on the “DATA PO & STOCK” sheet.	The delivery data is appeared and generate value on “DATA PO & STOCK” sheet.	As Expected	Valid
50	Click “WORKERS DEMAND” option on side menu.	Move to “WORKERS DEMAND” sheet.	As Expected	Valid
51	Check the data on the “WORKERS DEMAND” sheet.	The delivery data is appeared and generate value on “WORKERS DEMAND” sheet.	As Expected	Valid
52	Click “BILL OF MATERIAL B1” option on side menu.	Move to “BILL OF MATERIAL B1” sheet.	As Expected	Valid
53	Check the data on the “BILL OF MATERIAL B1” sheet.	The delivery data is appeared and generate value on “BILL OF MATERIAL B1” sheet.	As Expected	Valid
54	Click “BILL OF MATERIAL B2” option on side menu.	Move to “BILL OF MATERIAL B2” sheet.	As Expected	Valid
55	Check the data on the “BILL OF MATERIAL B2” sheet.	The delivery data is appeared and generate value on “BILL OF MATERIAL B2” sheet.	As Expected	Valid

No.	Testing Activities	Expected Results	Testing Result	Approval
56	Click “DAFTAR PURCHASE ORDER B1” option on side menu.	Move to “DAFTAR PURCHASE ORDER B1” sheet.	As Expected	Valid
57	Check the data on the “DAFTAR PURCHASE ORDER B1” sheet.	The delivery data is appeared and generate value on “DAFTAR PURCHASE ORDER B1” sheet.	As Expected	Valid
58	Click “DAFTAR PURCHASE ORDER B2” option on side menu.	Move to “DAFTAR PURCHASE ORDER B2” sheet.	As Expected	Valid
59	Check the data on the “DAFTAR PURCHASE ORDER B2” sheet.	The delivery data is appeared and generate value on “DAFTAR PURCHASE ORDER B2” sheet.	As Expected	Valid
60	Click “PARTS PRODUCTION PLANNING” option on side menu.	Move to “PARTS PRODUCTION PLANNING” sheet.	As Expected	Valid
61	Check the data on the “PARTS PRODUCTION PLANNING” sheet.	The delivery data is appeared and generate value on “PARTS PRODUCTION PLANNING” sheet.	As Expected	Valid

No.	Testing Activities	Expected Results	Testing Result	Approval
62	Click “PRODUCTION JOB” option on side menu.	Move to “PRODUCTION JOB” sheet.	As Expected	Valid
63	Check the data on the “PRODUCTION JOB” sheet.	The delivery data is appeared and generate value on “PRODUCTION JOB” sheet.	As Expected	Valid
64	Click “JOBS SORTING” option on side menu.	Move to “JOBS SORTING” sheet.	As Expected	Valid
65	Check the data on the “JOBS SORTING” sheet.	The delivery data is appeared and generate value on “JOBS SORTING” sheet.	As Expected	Valid
66	Click “MC CUTT 1” option on side menu.	Move to “MC CUTT 1” sheet.	As Expected	Valid
67	Check the data on the “MC CUTT 1” sheet.	The delivery data is appeared and generate value on “MC CUTT 1” sheet.	As Expected	Valid
68	Click “MC CUTT 2” option on side menu.	Move to “MC CUTT 2” sheet.	As Expected	Valid
69	Check the data on the “MC CUTT 2” sheet.	The delivery data is appeared and generate value on “MC	As Expected	Valid

No.	Testing Activities	Expected Results	Testing Result	Approval
		CUTT 2” sheet.		
70	Click “MC CUTT 3” option on side menu.	Move to “MC CUTT 3” sheet.	As Expected	Valid
71	Check the data on the “MC CUTT 3” sheet.	The delivery data is appeared and generate value on “MC CUTT 3” sheet.	As Expected	Valid
72	Click “CUTT POLA” option on side menu.	Move to “CUTT POLA” sheet.	As Expected	Valid
73	Check the data on the “CUTT POLA” sheet.	The delivery data is appeared and generate value on “CUTT POLA” sheet.	As Expected	Valid
74	Click “MEJA PACKING BUNGKUSAN” option on side menu.	Move to “MEJA PACKING BUNGKUSAN” sheet.	As Expected	Valid
75	Check the data on the “MEJA PACKING BUNGKUSAN” sheet.	The delivery data is appeared and generate value on “MEJA PACKING BUNGKUSAN” sheet.	As Expected	Valid
76	Click “ASSY AND PACKING JOB”	Move to “ASSY AND PACKING JOB” sheet.	As Expected	Valid

No.	Testing Activities	Expected Results	Testing Result	Approval
	option on side menu.			
77	Check the data on the “ASSY AND PACKING JOB” sheet.	The delivery data is appeared and generate value on “ASSY AND PACKING JOB” sheet.	As Expected	Valid
78	Click “ASSY AND PACKING SORTING” option on side menu.	Move to “ASSY AND PACKING SORTING” sheet.	As Expected	Valid
79	Check the data on the “ASSY AND PACKING SORTING” sheet.	The delivery data is appeared and generate value on “ASSY AND PACKING SORTING” sheet.	As Expected	Valid
80	Click “DEMAND PREVIOUS MONTH” option on the side menu.	Move to “INPUT TOTAL DEMAND AND STOCK PREVIOUS MONTH” sheet.	As Expected	Valid
81	Input Total Demand Previous Month Data.	The Total Demand Previous Month Data appears on “DEMAND RECAP” sheet. (Use side menu to search the data)	As Expected	Valid

No.	Testing Activities	Expected Results	Testing Result	Approval
82	Click “MAIN MENU” option on the side menu	Move to “MAIN MENU” sheet.	As Expected	Valid

### B. Inventory Department Black Box Testing

No	Testing Activities	Expected Results	Testing Result	Approval
1	Click “DATA RM” option on main menu.	Move to “DATA RM” sheet.	As Expected	Valid
2	Input Initial Stock RM, Delivered RM, and Used RM.	The Raw material data will appear and generate value on “RAW MATERIAL STOCK” sheet. (Use side menu to search the data)	As Expected	Valid
3	Click “EST STOCK RM” option on the side menu.	Move to “EST STOCK RM” sheet.	As Expected	Valid
4	Input Estimated Stock Raw Material for the last day in the Month.	The Estimated Raw Material Data will appear and generate value on “BILL OF MATERIAL B1” sheet. (Use side menu to search the data)	As Expected	Valid

No	Testing Activities	Expected Results	Testing Result	Approval
5	Click “BILL OF MATERIAL B2” option on side menu.	Move to “BILL OF MATERIAL B2” sheet.	As Expected	Valid
6	Check the data on the “BILL OF MATERIAL B2” sheet.	The Estimated Stock Raw Material data is appeared and generate value on “BILL OF MATERIAL B2” sheet.	As Expected	Valid
7	Click “DAFTAR PURCHASE ORDER B1” option on side menu.	Move to “DAFTAR PURCHASE ORDER B1” sheet.	As Expected	Valid
8	Check the data on the “DAFTAR PURCHASE ORDER B1” sheet.	The Estimated Stock Raw Material data is appeared and generate value on “DAFTAR PURCHASE ORDER B1” sheet.	As Expected	Valid
9	Click “DAFTAR PURCHASE ORDER B2” option on side menu.	Move to “DAFTAR PURCHASE ORDER B2” sheet.	As Expected	Valid

No	Testing Activities	Expected Results	Testing Result	Approval
10	Check the data on the “DAFTAR PURCHASE ORDER B2” sheet.	The Estimated Stock Raw Material data is appeared and generate value on “DAFTAR PURCHASE ORDER B2” sheet.	As Expected	Valid
11	Click “EST STOCK WIP” option on the side menu.	Move to “INITIAL WIP STOCK” sheet.	As Expected	Valid
12	Input Amount of WIP in pieces and sets	The Amount of WIP in pieces data is appeared and generate value on “PRODUCTION JOB” sheet. (Use side menu to search the data)	As Expected	Valid
13	Click “JOBS SORTING” option on side menu.	Move to “JOBS SORTING” sheet.	As Expected	Valid
14	Check the data on the “JOBS SORTING” sheet.	The Amount of WIP data is appeared and generate value on “JOBS SORTING” sheet.	As Expected	Valid
15	Click “MC CUTT 1” option on side menu.	Move to “MC CUTT 1” sheet.	As Expected	Valid



No	Testing Activities	Expected Results	Testing Result	Approval
16	Check the data on the “MC CUTT 1” sheet.	The Amount of WIP data is appeared and generate value on “MC CUTT 1” sheet.	As Expected	Valid
17	Click “MC CUTT 2” option on side menu.	Move to “MC CUTT 2” sheet.	As Expected	Valid
18	Check the data on the “MC CUTT 2” sheet.	The Amount of WIP data is appeared and generate value on “MC CUTT 2” sheet.	As Expected	Valid
19	Click “MC CUTT 3” option on side menu.	Move to “MC CUTT 3” sheet.	As Expected	Valid
20	Check the data on the “MC CUTT 3” sheet.	The Amount of WIP data is appeared and generate value on “MC CUTT 3” sheet.	As Expected	Valid
21	Click “CUTT POLA” option on side menu.	Move to “CUTT POLA” sheet.	As Expected	Valid
22	Check the data on the “CUTT POLA” sheet.	The Amount of WIP data is appeared and generate value on “CUTT POLA” sheet.	As Expected	Valid

No	Testing Activities	Expected Results	Testing Result	Approval
23	Click “MEJA PACKING BUNGKUSAN” option on side menu.	Move to “MEJA PACKING BUNGKUSAN” sheet.	As Expected	Valid
24	Check the data on the “MEJA PACKING BUNGKUSAN” sheet.	The Amount of WIP data is appeared and generate value on “MEJA PACKING BUNGKUSAN” sheet.	As Expected	Valid
25	Click “INITIAL STOCK FG” option on the side menu.	Move to “INITIAL STOCK FG” sheet.	As Expected	Valid
26	Input Initial Stock Finished Goods.	The Initial Stock Finished Goods data is appeared and generate value on “DATA PO & STOCK” sheet. (Use side menu to search the data)	As Expected	Valid
29	Click “STOCK RECAP” option on side menu.	Move to “STOCK RECAP” sheet.	As Expected	Valid
30	Check the data on the “STOCK RECAP” sheet.	The Initial Stock Finished Goods data is appeared and generate value on “STOCK RECAP” sheet.	As Expected	Valid

No	Testing Activities	Expected Results	Testing Result	Approval
31	Click “ACCEPTED FG” option on the side menu.	Move to “ACCEPTED STOCK FG” sheet.	As Expected	Valid
32	Input Accepted Finished Goods.	The Accepted Finished Goods data is appeared and generate value on “DATA PO & STOCK” sheet. (Use side menu to search the data)	As Expected	Valid
33	Click “OEE” option on side menu.	Move to “OEE” sheet.	As Expected	Valid
34	Check the data on the “OEE” sheet.	The Accepted Finished Goods data is appeared and generate value on “OEE” sheet.	As Expected	Valid
35	Click “MAIN MENU” option on the side menu	Move to “MAIN MENU” sheet.	As Expected	Valid

**C. Production Department Black Box Testing**

No	Testing Activities	Expected Results	Testing Result	Approval
1	Click “WORKERS AVAILABILITY” option on main menu.	Move to “WORKERS AVAILABILITY” sheet.	As Expected	Valid
2	Input workers presence data.	The worker’s presence data is appeared and generate value on “OEE” sheet. (Use side menu to search the data)	As Expected	Valid
3	Click “PRODUCTION FG” option on the side menu.	Move to “ACTUAL PRODUCTION FG” sheet.	As Expected	Valid
4	Input Actual Production Finished Goods and Down Time Data.	The Actual Production Finished Goods and Down Time Data appears and generate value on “OEE” sheet. (Use side menu to search the data)	As Expected	Valid
5	Click “ACTUAL WIP” option on the side menu.	Move to “ACTUAL PRODUCTION WIP” sheet.	As Expected	Valid

No	Testing Activities	Expected Results	Testing Result	Approval
6	Input Actual WIP per process, Time Machine Used, Manpower per process, Down Time per process, and Time Availability on Assembling and Packing.	The Actual WIP per process, Time Machine Used, Manpower per process, Down Time per process, and Time Availability on Assembling and Packing data will appear and generate value on “OEE (ON PROCESS)” sheet. (Use side menu to search the data)	As Expected	Valid
7	Click “PRODUCTION FINISH DATE” option on the side menu.	Move to “PRODUCTION FINISH DATE” sheet.	As Expected	Valid
8	Input Production Finish Date on the White Column (Ignore Highlighted Red Column).	The Production Finish Date data is appeared on “MC CUTT 1” sheet. (Use side menu to search the data)	As Expected	Valid
9	Choose the Approval Status	The Approval Status Changed	As Expected	Valid
10	Click “MC CUTT 2” option on side menu.	Move to “MC CUTT 2” sheet.	As Expected	Valid

No	Testing Activities	Expected Results	Testing Result	Approval
11	Check the data on the “MC CUTT 2” sheet.	The Production Finish Date is appeared “MC CUTT 2” sheet.	As Expected	Valid
12	Click “MC CUTT 3” option on side menu.	Move to “MC CUTT 3” sheet.	As Expected	Valid
13	Check the data on the “MC CUTT 3” sheet.	The Production Finish Date is appeared “MC CUTT 3” sheet.	As Expected	Valid
14	Click “CUTT POLA” option on side menu.	Move to “CUTT POLA” sheet.	As Expected	Valid
15	Check the data on the “CUTT POLA” sheet.	The Production Finish Date is appeared “CUTT POLA” sheet.	As Expected	Valid
16	Click “MEJA PACKING BUNGKUSAN” option on side menu.	Move to “MEJA PACKING BUNGKUSAN” sheet.	As Expected	Valid
17	Check the data on the “MEJA PACKING BUNGKUSAN” sheet.	The Production Finish Date is appeared “MEJA PACKING BUNGKUSAN” sheet.	As Expected	Valid

No	Testing Activities	Expected Results	Testing Result	Approval
18	Click “MAIN MENU” option on the side menu	Move to “MAIN MENU” sheet.	As Expected	Valid

#### D. Purchasing Department Black Box Testing

No.	Testing Activities	Expected Results	Testing Result	Approval
1	Click “PURCHASE ORDER RM LETTER B1” option on main menu.	Move to “PURCHASE ORDER RM LETTER B1” sheet.	As Expected	Valid
2	Choose Supplier Code and Raw Material Code.	The Supplier Data and Raw Materials Data will appear.	As Expected	Valid
3	Click “PURCHASE ORDER RM LETTER B2” option on the side menu.	Move to “PURCHASE ORDER RM LETTER B2” sheet.	As Expected	Valid
4	Choose Supplier Code and Raw Material Code.	The Supplier Data and Raw Materials Data will appear.	As Expected	Valid
5	Click “MAIN MENU” option on the side menu	Move to “MAIN MENU” sheet.	As Expected	Valid

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## CURRICULUM VITAE

# PANNYA DEWANGGA



## UNIVERSITY STUDENT

I am a hardworking and passionate Industrial Engineering student that seeking an opportunity to have a collaboration for thesis.

## Education

2016 - 2019  
UPH COLLEGE  
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2019 - Now  
**SWISS GERMAN UNIVERSITY**  
Industrial Engineering

## Hobby

Play Music Instrument and Drawing

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## Skills

AutoCAD, CorelDRAW, Microsoft Excel, Google Spreadsheet und Tecnomatix

## Experience

November – December 2021

### PT. Myori Indonesia

- Learn the process flow
- Learn to calculating of raw material
- Learn and draw the product with CorelDRAW and AutoCAD

March - July 2022

### Jeising GmbH & Co.KG

- Installing the alarm
- Set Up the Alarm Center
- Alcohol Drinks Packaging
- Reorganize the system of Alcohol Drinks Packaging