EZY MATERIAL REQUIREMENT PLANNING SYSTEM

YEO CHING LI

FAKULTI TEKNOLOGI MAKLUMAT DAN KOMUNIKASI

GRADE:

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

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EZY MATERIAL REQUIREMENT PLANNING SYSTEM

YEO CHING LI

This report is submitted in partial fulfilment of the requirements for the Bachelor of Computer Science (Database Management)

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
UNIVERSITI TEKNIKAL MALAYSIA MELAKA
DECLARATION

I hereby declare that this project report entitled

EZY MATERIAL REQUIREMENT PLANNING SYSTEM

is written by me and is my own effort and that no part has been plagiarized without citations.

STUDENT : ___________________________ Date: ____________
(YEO CHING LI)

SUPERVISOR : ___________________________ Date: ____________
(PN UMMI RABA’AH)
DEDICATION

To my beloved parents, my friends, and respected supervisor who provide help and encouragement throughout the project.
ACKNOWLEDGEMENTS

I would like to thank Pn. Ummi Raba’ah for accepting me under supervision and provided a lot of help and earnest suggestion throughout PSM I and PSM II.

I would like to thank my beloved parents and my friends too. They always stand by me and never stop giving me love, help, advice and support.

Lastly, I would like to thank everyone who has co operated and contributed to my final year project.
ABSTRACT

Ezy Material Requirement Planning System is a system which aimed to mainly industry oriented that is it is mainly for industry use for manufacturing more product than ordinary shop. The organizations that will be using it are those involved in factory field.

The system is designated for 2 group of user: admin and staff. Different group of user has different view and level of access. The administrator is able to access to all functionalities while staff can only access to limited module.
ABSTRAK

Ezy Material Requirement Planning System merupakan satu system yang bertujuan untuk kegunaan industri seperti kilang dan industri pembuatan daripada kedai yang biasa.

# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>SUBJECT</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DECLARATION</td>
<td>ii</td>
</tr>
<tr>
<td></td>
<td>DEDICATION</td>
<td>iii</td>
</tr>
<tr>
<td></td>
<td>ACKNOWLEDGEMENT</td>
<td>iv</td>
</tr>
<tr>
<td></td>
<td>ABSTRACT</td>
<td>v</td>
</tr>
<tr>
<td></td>
<td>ABSTRAK</td>
<td>vi</td>
</tr>
<tr>
<td></td>
<td>TABLE OF CONTENTS</td>
<td>vii</td>
</tr>
</tbody>
</table>

## CHAPTER I INTRODUCTION

1.1 Project Background 2
1.2 Problem Statement 3
1.3 Objective 3
1.4 Scope 4
   1.4.1 Modules 4
   1.4.2 Target User 5
1.5 Project Significance 5
1.6 Expected Output 6
1.7 Conclusion 6
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Introduction</td>
<td>7</td>
</tr>
<tr>
<td>2.2</td>
<td>Facts and Findings</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>2.2.1 Domain</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>2.2.2 Existing System</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>2.2.2.1 FurnitureMe Sdn Bhd</td>
<td>8</td>
</tr>
<tr>
<td>2.3</td>
<td>Project Methodology</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>2.3.1 Database Initial Study</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>2.3.2 Database Design</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>2.3.3 Implementation and Loading</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>2.3.4 Testing and Evaluation</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>2.3.5 Operation</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>2.3.6 Maintenance and Evolution</td>
<td>13</td>
</tr>
<tr>
<td>2.4</td>
<td>Project Requirements</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>2.4.1 Software Requirements</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>2.4.2 Hardware Requirements</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>2.4.3 Other Requirements</td>
<td>15</td>
</tr>
<tr>
<td>2.5</td>
<td>Project Schedule and Milestone</td>
<td>15</td>
</tr>
<tr>
<td>2.6</td>
<td>Conclusion</td>
<td>15</td>
</tr>
</tbody>
</table>
CHAPTER III  ANALYSIS

3.1  Introduction  16

3.2  Problem Analysis  17

3.3  Requirement Analysis  18

3.3.1  Data Requirement  18

3.3.2  Functional Requirement  18

3.3.3  Non-Functional Requirement  21

3.3.4  Other Requirements  21

3.3.4.1  Software Requirements  22

3.3.4.2  Hardware Requirements  22

3.3.4.3  Network Requirements  22

3.4  Conclusion  23

CHAPTER IV  DESIGN

4.1  Introduction  24

4.2  High Level Design  24

4.2.1  System Architecture  24

4.2.2  User Interface Design  25

4.2.2.1  Navigation Design  26

4.2.2.2  Input Design  27

4.2.2.4  Output Design  27

4.2.3  Conceptual & Logical Database Design  27

4.2.3.1  Business Rules  27

4.2.3.2  Entity Relationship Diagram  28
4.2.3.3 Data Dictionary 28
4.2.3.4 DBMS Selection 28

4.3 Detail Design 29
4.3.1 Software Design 29
4.3.1.1 Login 29
4.3.1.2 Use Authorization 29
4.3.1.3 Manage Records 30
4.3.1.4 Search 30
4.3.1.5 Report 30
4.3.1.6 Backup 30
4.3.1.7 Recovery 30
4.3.1.8 Audit Trail 31

4.3.2 Physical Database Design 31
4.3.2.1 Create Table 31
4.3.2.1 Create Triggers 34
4.3.2.3 Procedures 42
4.3.2.4 Functions 42

4.4 Conclusion 43

CHAPTER V IMPLEMENTATION

5.1 Introduction 44

5.2 Software Development Environment Setup 44
5.2.1 Development Environment Setup 44

5.3 Software Configuration Management 46
5.3.1 Configuration Environment Setup 46
5.3.2 Version Control Procedure
5.4 Implementation Status
5.5 Conclusion

CHAPTER VI TESTING
6.1 Introduction
6.2 Test Plan
   6.2.1 Test Organization
   6.2.2 Test Environment
   6.2.3 Test Schedule
6.3 Test Strategy
   6.3.1 Classes of Test
6.4 Test Design
   6.4.1 Test Description
   6.4.2 Test Data
6.5 Test Result and Analysis
6.6 Conclusion

CHAPTER VII PROJECT CONCLUSION
7.1 Observation on Weaknesses and Strengths
   7.1.1 Weaknesses of EMRP
   7.1.2 Strengths of EMRP
7.2 Propositions for Improvements
7.3 Contribution
7.4 Conclusion
REFERENCES

APPENDIX
FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY

BITU 3973
PROJEK SARJANA MUDA

<table>
<thead>
<tr>
<th>Student Name</th>
<th>YEO CHING LI</th>
</tr>
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</tr>
<tr>
<td>Tel. No.</td>
<td>012-7817732</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:qily_0401@hotmail.com">qily_0401@hotmail.com</a></td>
</tr>
<tr>
<td>Supervisor Name</td>
<td>PUAN UMMI RABA’AH</td>
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CHAPTER 1

INTRODUCTION

1.1 Project Background:

Currently, a small furniture factory needs a system that can manage their raw material requirement to make the work flow of the regarding factory simpler and more convenient in handling all their sales order.

The regarding factory claims that the current method they are using are lacking of effective management. They are unable to store and retrieve data effectively. The security of data is also fragile.

The proposed system is mainly industry oriented that is it is mainly for industry use for manufacturing more product than ordinary shop. The organizations that will be using it are those involved in factory field.

As for database system module, database security backup and recovering when database is corrupted, access control, role and privileges will be provided to maintain the database.
1.2 Problem Statement:

➤ Time consuming in handling huge amount of data
   It is time consuming in handling records that are store manually. Searching and updating the data may cause a lot of cumbersome.

➤ Lack of security measures and access control
   The company important information such as customer information is not kept safely. Unauthorized person may have access to the records.

➤ Lack of information for maintenance and services in management
   The company does not keep track of the management of produce shirt. Beside that, the management are less efficient and require improvement.

1.3 Objective:

➤ To automate all the management task
   This system computerizes all the management task of the information. Hence, it makes the management task more easy and convenient.

➤ To provide accuracy information
   System will provide accuracy information for orders or payment compare using manual file or paper work. This can avoid data lose or redundancy data occur.

➤ To reduces cost or budget
   Staff will not make repeating orders for stock if they can search exist of the data from the system.

➤ To save time and human energy
   When staffs needed to check the stock of product or material, there are no need for them to check inside the store room. They just need to key in the
material or product ID and can quickly get the result. This can lend to save human energy and save time.

➢ To ensure the database more secure
Security measure such as backup, recovery, access control to maintain database confidentiality, integrity, availability.

1.4 Scope:
The scope for Ezy Material Requirement Planning System consists of front end of the system which is the interaction with user and also the background process which are the management of the database level.

1.4.1 Modules

➢ Login Module
This module is to prevent unauthorized user from viewing or modifying the data in the system. It provide access to the authorize user to log in.

➢ Event Organizing Module
These modules allow the staff to inserting or modifying without data loss like performs using manual ways.

➢ Material Requirement Plan Module
This module manages inventory control, bill of material processing and elementary scheduling. With this, bulk purchasing can be done and raw materials can be bought in lower price.

➢ Database Administrator Module
As for database system level, user will be created with specific roles and privileges so that only certain user is allowed to perform certain operation in the database.
Backup and Recovery Module

This module enables the system to backup the database automatically physically and logically. This is for database recovery if there is any database failure happens. Therefore, data is protected from being damaged or data loss.

1.4.2 Target User

Admin
This system will let the admin to manage the information such as managing the service of the system and staffs information and manage the customer details and arrange the flow of the work orders according to the customer requirements. Admin will also have the rights to do backup and recovery of the database.

Staff
This system will allow the staff to manage the work order, materials as well as the product.

1.5 Project Significance

With computerized system replacing the manual transaction process, the management process becomes much efficient. All the records are kept and stored systematically without requiring many human power to manage it. Therefore, huge amount of transaction can be done in a shorter time.

Through the Ezy Material Requirement Planning System, all the record access are restricted and monitored automatically. Each user can have specific levels of access to various data types. Unauthorized record accesses and manipulation can be prevented. All the records are also kept up to date and confidential.
1.6 Expected Output

This system develops to improve the existing system in manual way which cause a lot of human resource and time require. The system makes the management task more effective since the entire managing task is computerized. The system developed should provide user friendly interface and proper guidance in system functionality. Interface plays an important role in communicating the users and the system. User friendly interface helps the user to get familiar with the system in a shorter time.

Besides that this system provides backup system that able to do backup the database. Any corruption of the files in the database can be recovered by using the latest backup database.

1.7 Conclusion

In a nutshell, this chapter stated out the problems, objectives and scope of Ezy Material Requirement Planning System. In the following chapter, we will look at the systems’ methodology and findings. These two item will be discussed based on the facts in chapter one. Project schedule and milestone is developed so that the project is completed on time and other system maintenance features will be implemented to the system according to the system requirement.
CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

In this chapter, literature review about the Ezy Material Requirement Planning System is done to research for the existing system. To do this research, a lot of work have been done like library research, logical arrangement of information, and professional writing. In addition, providing understanding about this topic, literature review also helps ensuring the intellectual context of the system and situates it within the project.

Methodology is a set of rules, method and principle for developing and operating this system. Database Life Cycle is been using in this project methodology. Therefore it is useful in the process of developing systematic and error free system.

2.2 Facts and Finding

Facts and findings are the analyst about information collected through the interview, websites, journals and other materials. In this part, the domain of the project, current existing system in the market and the technique used will be discussed.
2.2.1 Domain

The domain of the project is the Ezy Material Requirement Planning. This is due to the major features of the system covers the Ezy Material Requirement Planning process. With the computerized Ezy Material Requirement Planning system replacing the manual transaction process, the management process becomes much efficient. Besides that, the system also implements features that restrict and control user access levels, backup, recovery and etc.

2.2.2 Existing System

There are different types of company management system in the market. ShampooMe Sdn Bhd had been chosen to make comparison.

2.2.2.1 FunitureMe Sdn Bhd

FunitureMe Sdn Bhd uses an Excel-Based MRP that manages the transaction Material Requirement Plan of furniture producing. The company claims that they do not have an MRP system, or having generated scheduled dates within Excel, they are unable to upload them to their MRP system. The system acts as a repository for demand and inventory data, and will perform Material Requirements Planning (MRP) calculations. ShampooMe Sdn Bhd. System is developed for internal use. Everyone in the company with the Excel file can read the Excel sheet.

- Bill Of Material
This is the Excel Sheet for the Purchase Order of Shampoo Sdn Bhd.

### Purchase Orders

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Microsoft Excel has automatic calculate function.

This is the Excel sheet for MRP Report that will be sent to the Purchasing Department for purchasing purpose.

- MRP Report
Fact-finding is an important activity in system investigation. Various kinds of techniques are used and the most popular among them are interviews, questionnaires, record reviews, case tools and also the personal observations and etc. There are several techniques been applied to the project to ease the research of the topics.

- **Interview**

  Interview session is conducted with the authorized person Mr. Chong Guan Long. The interview session helps a lot in gathering the user requirements, problem faces, SWOT of the manual system and etc.

- **Documentation review**

  Journals, professional writings, and seniors PSM (Project Sarjana Muda) were gathered from library, magazines, internet and other resources. Document review is done to get comprehensive and historical information of the project. Besides that, it also acts as a guideline to the project.

### 2.3 Project Methodology
A project methodology refers to the framework that is used to structure, plan, and control the whole system development process. Different project may implements different methodology due to various kinds of technical, organizational, project and team considerations. In this project, the Database Life Cycle (DBLC) is chosen to be the project methodology.

The database life cycle (DBLC) defines the stages involved in getting any type of database up and running. In fact, the DBLC never ends because database monitoring, modification, and maintenance are part of the life cycle. The Database Life Cycle (DBLC) contains six phases which are database initial study, database design, implementation and loading, testing and evaluation, operation, and maintenance and evolution.

![Diagram of DBLC life cycle]

Figure: DBLC life cycle

2.3.1. Database Initial study

This is the first stage in database life cycle (DBLC). In this stage, analysis about the current system is done in detail. Usually the analyses of the database system are in two forms:

- **Business Analysis**
  This analysis includes business process analysis, planning, requirements gathering, conducting surveys, user interaction, and presentation. Business