UNIVERSITI TEKNOLOGI MARA

INVENTORY MANAGEMENT SYSTEM FOR KEROPOK LEKOR 008 USING USABILITY HEURISTICS

NUR FARHAH AIN BT MUHAMAD KHIDER

BACHELOR OF INFORMATION SYSTEMS (HONS.) BUSINESS COMPUTING

FEBRUARY 2026

TABLE OF CONTENTS

CONTENT **PAGE**

SUPERVISOR APPROVAL ..... **i**
STUDENT DECLARATION ..... **ii**
ACKNOWLEDGEMENT ..... **iii**
TABLE OF CONTENTS ..... **v**
LIST OF FIGURES ..... **ix**
LIST OF TABLES ..... **x**
LIST OF ABBREVIATIONS ..... **xi**

CHAPTER 1 INTRODUCTION **1**
1.1 Background of Study 1
1.2 Current Business Process 2
1.3 Problem Statement 4
1.4 Objectives 5
1.5 Scope 5
1.6 Significance 6
1.7 Project Framework 7
1.8 Gantt Chart 13
1.9 Conclusion 14

CHAPTER 2 LITERATURE REVIEW **15**
2.1 Management Information System 15
2.1.1 Advantages of Management Information Systems 16
2.1.2 MIS Functions and Characteristics 17
2.2 Inventory Management 20
2.2.1 Concept and Purpose of Inventory Management 21
2.2.2 Advantages of Inventory Management 22
2.2.3 Types of Inventories 23
2.3 Usability Heuristics 24
2.3.1 Application of Usability Heuristics in System Design 25
2.3.2 Advantages of Using Usability Heuristics 27

2.3.3 System Usability Scale 28
2.4 System Development Model 29
2.4.1 Agile Model 29
2.4.2 Spiral Model 29
2.4.3 Prototyping Model 29
2.4.4 Selected System Development Model (Waterfall) 30
2.4.5 The Waterfall Model 30
2.4.5.1 Analysis Phase 31
2.4.5.2 Design Phase 31
2.4.5.3 Implementation Phase 32
2.4.5.4 Testing Phase 32
2.4.5.5 Maintenance Phase 32
2.5 Similar Existing System 32
2.5.1 MCM Inventory Management System 33
2.5.2 Inventory Management System 36
2.5.3 Enhance and Retail Mobile Phone Store 41
2.6 Comparison of Similar Existing Systems 44
2.6.1 Comparison of Similar Existing Systems Based on MIS Features 44
2.6.2 Comparison of Similar Existing Systems Based on Usability Heuristics 46
2.7 Implication of Literature Review 47
2.8 Conclusion 49

CHAPTER 3 METHODOLOGY 50
3.1 Project Methodology 50
3.2 System Planning 56
3.2.1 Planning Phase 56
3.3 System Development 57
3.3.1 Analysis Phase 57
3.3.2 Design Phase 60
3.3.2.1 System Architecture 61
3.3.2.2 Context Diagram 61
3.3.2.3 Data Flow Diagram 62
3.3.2.4 Entity Relationship Diagram 65
3.3.2.5 Site Map 70
3.3.2.6 User Interface Design 72
3.4.3 Implementation Phase 80
3.4.4 Testing Phase 81
3.4.4.1 Test Case 81
3.4.4.2 Expert Evaluation 83

ACKNOWLEDGEMENT

First of all, I would like to express my deepest gratitude to Allah SWT for His blessings, strength, patience, and guidance throughout the completion of this Final Year Project. Without His grace, I would not have been able to complete this project successfully. I would also like to express my sincere appreciation to my beloved parents for their endless love, encouragement, and continuous support throughout my studies. Their sacrifices, prayers, and motivation have inspired me to stay focused and complete this project. Besides that, I would like to thank my Final Year Project lecturer and my supervisor for their valuable knowledge, guidance, advice, and continuous support during the development of this project. Their constructive feedback and encouragement have greatly helped me throughout every stage of this project.

ABSTRACT

Inventory management is important to ensure that raw materials, production supplies, and finished products are always available when needed. However, Keropok Lekor 008 managed its inventory manually, which caused problems such as incorrect stock records, difficulty checking stock levels, slow stock updates, and time-consuming report preparation. Therefore, this project aimed to identify the current inventory management process and its problems, develop an Inventory Management Information System for Keropok Lekor 008 using Usability Heuristics, and evaluate the functionality and usability of the system. The system was developed using the Waterfall Model, while Usability Heuristics were used to create a simple, consistent, and user-friendly interface. The system was evaluated through functionality testing, expert evaluation, and user evaluation involving 30 respondents using the System Usability Scale (SUS). The results showed that the system achieved an overall SUS score of 75.33, indicating an acceptable level of usability. The effectiveness, efficiency, and satisfaction scores were 71.88, 81.46, and 70.00, respectively. These results show that users found the system easy to learn, easy to use, and helpful for managing inventory tasks. The system also made it easier to monitor inventory, submit stock update requests, manage production planning, and generate inventory reports. Although the system achieved its objectives, future improvements can include adding notification sounds for new stock requests, developing a mobile application, and adding barcode or QR code scanning to improve inventory management.