

PHARMACY STOCK INVENTORY MANAGEMENT SYSEM
(CASE STUDY: KAGULU PHARMACY- NAGONGERA)

BY

OMUTIA JOHN MARK

BU/UP/2018/3530

0775439167/0759623174

Omutiajohnmark21@gmail.com

Department of computer studies

Faculty of Science and Education

A Project Report Submitted to the Faculty of Science Education
For the Study Leading to a Project in Partial Fulfillment of the
Requirements for the Award of the Degree of Bachelor of
Science and Education of Busitema University.

Supervisor

Madam Enid Naturinda

Department of Computer Studies

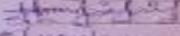
Faculty of Science and Education.

May 2022

DECLARATION

DECLARATION

I, OMARIA JOHN MARK Reg. No. BUMD20181300 hereby declare that this Project Report is original and has not been presented and/or submitted for any other degree, or any other University before.

Signature: 
Date: 26 MAY 2024

APPROVAL

APPROVAL

This is to Certify that OMUTIA JOHN MARK, Reg. NO. BU/UP/2018/3530, Pursuing Bachelor's Degree in Science Education did this Research Project and Compiled this Report under my Supervision and it's ready for Submission to the Department of Computer.

Supervisor

MADAM NATURINDA ENID

Signature: 

Date: 26th May 2022

Department of Computer Studies,
Busitema University

DEDICATION

This project work is dedicated to the ALMIGHTY GOD for making me being able to start up and successfully finish in sound health. Also to my parents Mr. Omutia Milton and Mrs. Anyait Immaculate as well for being supportive in the course of this project work both financially and spiritually, to all my church members for the moral support and the spiritual support with the sincere prayers they made for me to attain this success and to my brothers mostly Igamula David, one and my only sister Adekur Jesca and close friends without forgetting my Supervisor Madam Naturinda Enid for being supportive and kind to me during the course of this project work. May the Almighty God bless you all abundantly.

ACKNOWLEDGEMENT

My sincere gratitude goes to THE ALMIGHTY GOD for his abundant mercies, guidance and protection over me throughout the course of my project work.

All thanks to my adorable parents Mr. OMUTIA MILTON AND Mrs. ANYAIT IMMACULATE without forgetting my brother IGAMULA DAVID and Sister ADEKUR JESCA for their profound help and support during the course of this project work.

I would really say words are not enough to express my profound gratitude to my Supervisor MADAM NATURINDA ENID who is my supervisor and all the Lecturers in the Department of Computer Studies as well as the Non-Teaching Staffs of the Department of Computer Studies especially the Lab Technician for their support and inspiration in one way or the other. May God bless you abundantly.

All thanks to my sincere colleagues in the computer class 2018/2021 and the whole fraternity of Nagongera Campus for their immense contribution and unconditional support throughout the course of my project work without forgetting the director of Kagulu pharmacy Mr. KAGULU RICHARD and the staff for their time they rendered to me during the time of data collection. May God in his Devine favor bless you all.

List of Abbreviation

Reg-No

Registration Number

HTML

Hypertext mark-up language

MYSQL

my structured query language

SQL

Structured query language

DFD

Data flow diagram

SDLC

System development life cycle

API

Application programming interface

SAD	System analysis and design
GHZ	Giga Hertz
Gb	Gigabyte
MIS	Management information system
VG	Very good
F	Fair
NG	Not good
UD	Undecided
RAD	Rapid application Development
CSS	Cascading Style sheets
PHP	Hypertext Pre- processor

Table of Contents

DECLARATION	ii
APPROVAL	iv
DEDICATION.....	v
ACKNOWLEDGEMENT.....	vi
List of Abbreviation.....	vi
CHAPTER ONE	1
1.0 Introduction.....	1
1.1 Background.....	1
1.2 Problem statement.....	2
1.3 Objectives of the study.....	2
1.4 Specific objectives.....	2
1.5 Significance.....	3
1.6 Scope.....	3
CHAPTER TWO	4
2.0 LITERATURE REVIEW	4
2.1 INTRODUCTION	4
2.1 PHARMACY MANAGEMENT SYSTEM	4
2.2 INVENTORY MANAGEMENT	4
2.3 METHODS OF INVENTORY MANAGEMENT	6
2.5 TECHNOLOGICAL FEATURES THAT HAVE IMPROVED INVENTORY MANAGEMENT	7
2.6 USE OF TECHNOLOGY IN INVENTORY MANAGEMENT	7
2.7 CONCLUSION	10
CHAPTER THREE.....	11
3.0 METHODOLOGY	11
3.1 Introduction.....	11
3.2 System Study and Investigation.....	11
3.3 Population survey.....	11

3.4 Sampling technique.....	11
3.5 Data collection.....	11
3.6 Primary Data.....	11
3.7 Interviews.....	12
3.8 Observation	12
3.9 Secondary data	12
3.9.1 Document Review.....	12
3.10 Validity and Reliability Issues	13
3.11 Data Analysis Methods	13
3.12 Ethical considerations.....	13
CHAPTER FOUR.....	15
4.0 RESULTS AND DISCUSSION	15
4.1 Introduction.....	15
4.2 The system study.....	15
4.2.1 Weaknesses of the current system.....	15
4.2.2 Strengths of the current system.....	16
4.3 System Analysis.....	16
4.3.1 Requirement analysis.....	16
4.3.2 System requirement specifications.....	17
<i>Table 1Hardware requirements of a pharmacy stock inventory management system.....</i>	17
<i>Table 2 Software requirements of a pharmacy stock inventory management system</i>	18
4.4 System design.	18
4.4.1 Architecture design	18
<i>Figure 4 The system architecture.....</i>	18
4.4.2 Context diagram.....	19
<i>Figure 5 the system context diagram</i>	19
4.4.3 Data flow diagram.....	19
<i>Figure 6 the system dataflow diagram.....</i>	19

4.4.4	Entity relationship diagram.....	20
<i>Figure 7</i>	<i>the system entity relationship diagram.....</i>	20
4.4.5	The Flow Chart	20
<i>Figure 8</i>	<i>the system flow chart.....</i>	21
4.4.6	Data Dictionary.....	21
	<i>Table 3</i> <i>Table describing data stores in the system.</i>	22
CHAPTER FIVE	23
5.0	RESEARCH FINDINGS	23
5.1	Introduction	23
5.2	Implementation	23
5.2.1	Tools used in implementation.	23
5.3	Results/Outcomes	24
5.3.1	User Interfaces.	24
<i>Figure 9</i>	<i>The user login page.</i>	24
<i>Figure 10</i>	<i>dashboard.</i>	25
<i>Figure11</i>	<i>registration</i>	26
<i>Figure 12</i>	<i>drug tracker</i>	26
<i>Figure12:</i>	<i>Expiry Alert</i>	27
CHAPTER SIX	28
6.1	Conclusions and recommendation.	28
6.2	Introduction.	28
6.3	The project roadmap.	28
6.4	Achievements.	28
6.5	Challenges encountered.	28
6.6	Future research prospects.	29
6.7	Recommendations.	29
6.8	Conclusions.	29
REFERENCES	31

APPENDICES	33
APPENDEX 1.....	33
Interview questions	33

CHAPTER ONE

1.0 Introduction.

The health of a community is of great priority to their government and also plays a great role in the development of the community and the people's life and activities at large.

The internet offers a great deal of resources that our project will make use of, the system will allow a user (member of staff) to create an account for the pharmacist and populate the data for the drugs and be able to update this account with whatever developments the pharmacist has in relation to the pharmacy.

The information management systems used by pharmacy professionals (referred to in this document as pharmacy stock inventory management systems) must support the delivery of patient care, including the dispensing of drugs in accordance with federal/provincial/territorial regulations and standards. System ability to record, display, store, and exchange patient-specific information in a manner that optimizes workflow within pharmacy teams is critical, as is the ability to exchange information with other systems such as provincial health record systems. Effective systems should be integrated and interoperable. Systems must be developed using nationally recognized data and technical standards to facilitate both information exchange with external systems such as federal/provincial/territorial electronic health records, and processes such as electronic prescribing. They must be designed to support the privacy and security of personal health information recorded and stored within, and transmitted to and from the systems.

1.1 Background.

In a rapidly emerging world of technology advancement and innovations, computer has become a way of life and a driving force of modern industry and businesses (studymode.com). It has become one of the most significant tools for more productive operations and accurate results (Kramer et al, 2007). Web development can include a web design, web content development, client liaison, client-server-side scripting, web server and network security configuration and e-commerce development. It can range from developing the simplest static single page of plain text to the most complex web-based applications, electronic businesses or social network services (Rajapakse, 2012). Many organizations and institutions increase their investment in the web-

REFERENCES

1. Arslan, M. (2017). The role of information technology in inventory management: A study of the logistics sector of Pakistan. New York, NY: GRIN Verlag.
2. Pagano, A, M., & Liotine, M. (2019). Technology in supply chain management and logistics: Current practice and future applications. New York, NY: Elsevier.
3. Turban, E., Pollard, C., & Wood, G. (2018). Information technology for management: On-demand strategies for performance, growth, and sustainability. New York, NY: John Wiley & Sons.
4. Waller, M.A., & Esper, T.L. (2014). The definitive guide to inventory management: Principles and strategies for the efficient flow of inventory across the supply chain. New York, NY: Pearson Education Incorporated.
5. Bouldin AS, Holmes ER, Garner DD, Devoe AH. (2011). Purchasing and Managing Inventory. In: Chrisholm- Burns MA, Vaillancourt AM, Shepherd M. Pharmacy Management, Leadership, Marketing and Finance.
6. Ayad K. Ali. (2011). Inventory Management in Pharmacy Practice.
7. William Hughes, (2004). Clinical Pharmacy: A Practical Approach Macmillan Education Australia – Chemotherapy.
8. Chris Nelly (2004). Total Hospital Information System.
9. Joe Ben Hoyle (2006). University of Richmond Accounting in the Finance World v.1.0
10. Sudbury: Jones & Bartlett Publishers, LLC; P: 149.
11. Wiedenmayer K, Summers RS, Mackie CA, Gous AGS, Everard M, Tromp D (2006). Developing Pharmacy Practice: A Focus on Patient Care. Working Draft for Field Testing and Revision. Geneva: World Health Organization & International Pharmaceutical Federation, 15 p.
12. Carroll NV (1998). Accounting for Inventory and Cost of Goods Sold. In: Carroll NV, editor. Financial Management for Pharmacists, 2nd ed. Baltimore: Williams & Wilkins; 41 p.
13. Huffman DC. (1996). Purchasing and Inventory Control. In: Effective Pharmacy Management, 8th ed. Alexandria: National Association of Retail Druggists. 355 p.
14. McCaffrey DJ, Smith MC, Banahan BF, Frate DA, Gilbert FW. (1998). A Continued Look into the Financial Implications of Initial Noncompliance in Community

Pharmacies: An Unclaimed Prescription Audit Pilot. J Res Pharm Econ, 9(2):33-57.

15. Garner DD. (1994). Pharmacy Security. In: Effective Pharmacy Management, 7th ed. Alexandria: National Association of Retail Druggists 9. Pearce MJ, Begg EJ. A Review of Limited Lists and Formularies: Are they Cost-Effective? 415 p.
10. Food and Drug Administration Counterfeit Drug Task Force Report: (2006) Update. [cited 2011 Oct 1] Available from:
www.fda.gov/oc/initiatives/counterfeit/report6_06.html
11. Awaya T, Ohtaki K, Yamada T, Yamamoto K, Miyoshi T, Itagaki Y, Tasaki Y, Hayase N, Matsubara K. (2005 May). Automation in Drug Inventory Management Saves Personnel Time and Budget. *Yakugaku Zasshi*, 125(5):427-32.
12. Thomas C. Harrington, Douglas M. Lambert, Monica P. Vance, (1990) "Implementing an Effective Inventory Management System", International Journal of Physical Distribution & Logistics Management, Vol. 20 Iss: 9, pp.17 – 23.
http://umpir.ump.edu.my/id/eprint/3683/1/SITI_FAIRUZ_BT_MOHD_RAZALI.pdf
13. Priscilla Emery Jan 1, (2005). Knowledge Management: The Essentials Association for Information and Image Management International.