RETAIL SHOP DEBTOR MANAGEMENT TOOL
(CASE STUDY: OPIO PETER'S RETAIL SHOP IN NAGONGERA TOWN COUNCIL TORORO DISTRICT)

BY

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A PROJECT REPORT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR AWARD OF THE DEGREE OF BACHELOR OF SCIENCE AND EDUCATION, DEPARTMENT OF COMPUTER STUDIES, BUSITEMA UNIVERSITY.
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JANUARY, 2024

DECLARATION

I, WANGUSI EMMANUEL ALFRED, with Registration number BU/UG/2020/2436 hereby declare that this Project Report is original and has not been published or submitted for any other degree award to any other University before. I solemnly declare that this report is based on my own work carried out during the course of my research under the supervision of MR OBOTH ANDREW. I assert the statements made and conclusions drawn are an outcome of my research work during the period. I declare that the information contained in this report is a true count of my hard work and has never been submitted to any institution for any kind of award.

Sign: .....Date: 29/01/2024.....

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APPROVAL

This project report is to satisfy that the student WANGUSI EMMANUEL ALFRED, Registration NO. BU/UG/2020/2436 completed his research and therefore all achievements, challenges and recommendations stated are a true record of what he was able to accomplish during the research. This report has been read and approved for submission to the Board of Examinations.

Sign: .....Date: 29/Jan/24

MR OBOTH ANDREW

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DEDICATION

First and foremost, I thank the Almighty God who has successfully enabled me to complete with a sound mind and good health. I then dedicate this report to my inspiration of all times my father MR SWALIKHA MICHEAL and my dear mother NABULWALA JULIET. Sincerest appreciation to my lovely aunt MADAM NEKESA GRACE as well as a big shout out to my dearest siblings. Thank you so much for the support and may the Almighty God reward you abundantly. I also dedicate this report to my dear supervisor MR OBOTH ANDREW who guided me on the dos and don'ts of making this report a success. For if it was not him, maybe I would not shoot the tip of this peak. Lastly, I would like to express my sincere gratitude to my course mates: Kitale Ivan, Wakwaale Daniel, Etoju Francis, Nambuya Lilian, Sunday Alex, Lokee Michael. I dedicate this report to them too, since I wouldn't have completed this research without their help. Thank you, my dear friends.

ACKNOWLEDGEMENT

I would like to thank the Almighty God for enabling me pass through the entire period of my research and doing of my project. This attachment was successful due to the cooperation, guidance and support of a number of people who have enabled me gain much more than the scholastic aspects the program could have given. A special feeling of gratitude goes to my lovely father, SWALIKHA MICHEAL for continuously extending his strong words of encouragement as well as financial support throughout the research period. I also acknowledge my aunt, NEKESA GRACE for always being there for me as well. Furthermore, I would like to also appreciate the guidance and support of my fellow course mates especially Kitale Ivan, Wakwaale Daniel, Etoju Francis, Nambuya Lilian, Lokee Micheal, Chebet gilbert throughout the entire research period. May the good Lord bless you all. In a special way, I also thank my mam, Nabulwala Juliet for her support and kind words before and during my research and doing of the project. Lastly, I would like to thank my Supervisor, MR OBOTH ANDREW for his un-ending encouragement, guidance and support during my entire research. I will forever be grateful.

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LIST OF ACRONYNMS

1. RSDMT: Retail Shop Debt Management Tool
2. SSADM: Structured System Analysis and Design Methodology
3. HTML: Hypertext markup language
4. DFD: data flow diagram
5. POS: Point of sale
6. UI: User interface

ABSTRACT

The purpose of this research was to develop a comprehensive and effective retail shop debtor management tool for tracking, analyzing and managing debtors. This improved the efficiency and accuracy of debtor management in retail businesses. The manual system of debtor management that existed was time-consuming and error-prone, leading to delays in decision-making and loss of debtor information. The developed tool was designed to automate the process of debtor management, including sales transactions, inventory management, and financial reporting. The system based on a relational database management system and includes a user-friendly interface for easy data entry and retrieval. The research included a literature review of the existing systems, an analysis of the requirements of the developed tool, and the development and testing of the system. The outcomes of the study included improved efficiency and accuracy of debtor management, reduced costs, and increased revenue for retail businesses. the developed system was implemented using tools such as MySQL, PHP. The study was significant as it addresses a critical problem faced by retail businesses and provides a practical solution for improving their debtor information.

CHAPTER ONE

1.1 Introduction

The retail sector plays a significant role in the economic development of many nations, contributing to employment generation, income generation, and overall growth. However, retail businesses often face challenges related to debt management, which can hinder their growth and sustainability. Debt management is a critical aspect of financial management in retail businesses. According to Sugiarto, Yanti, Cahyani, Junaidi, and Oktoriza (2023), effective debt management enables businesses to maintain a healthy cash flow, meet financial obligations, and make strategic investments for expansion. However, according to Kirkpatrick (2009) inadequate debt management practices can lead to financial distress and, in extreme cases, business failure. However, according to Allen, Rosenberg, Keller, Setser, and Roubini (2002) many of these businesses struggle with debt management issues, including late payments, and difficulties in tracking and monitoring debts. The research aimed to develop an innovative Retail Shop Debtor Management Tool (RSDMT) designed to streamline debt tracking, automate payment reminders, provide financial analysis tools, and facilitate effective communication between retailers and debtors. By implementing a retail shop debtor management tool, retail businesses like Opio Peter's Retail Shop benefited from improved debt management practices, leading to enhanced business sustainability and growth.

1.2 Background

Opio Peter’s retail shop is a privately owned retail shop by Opio Peter as a sole proprietor. The shop is located within Nagongera Town council along Tororo-Busolwe access road and about 15km West of Tororo district in Eastern Uganda. The shop is set on 25square meters of land and it became operational from 2017. Opio peter sells a variety of goods including agricultural produce, cosmetics, utensils, packed foods, among others. His target was to sell these goods in cash to his customers but due to limited financial sources by some of his customers, Opio offers some goods to his customers on credit, he lends these goods to the customers and pay him back when they get the money.

The management of debt is a crucial aspect of financial stability and sustainability for businesses, particularly in the retail sector. According to Rodríguez, Quarantelli, Dynes, and Tierney (2007) retail shops often face challenges in effectively managing their debts, which can significantly impact their financial performance and overall viability. Currently Opio Peter uses the traditional form of debt management whereby he manually writes debtors in his record books and keeps on following the debtors by demanding them. Managing debtors by Opio peter has become a very big challenge in that some debtors hastate to pay while others take long to pay their debts. This research aimed to develop a comprehensive debt management tool for retail shops with specific focus on Opio Peter's retail shop in Nagongera town council as a case study. According to Kisfalvi (2002) effective debtor management tools are essential for businesses to navigate financial challenges and ensure their long-term survival. In the context, Opio Peter's Retail Shop faces various debt-related issues such as late payments, inadequate monitoring and documentation of debts. A current study by Kagan (2020) highlights the importance of leveraging technology and automation to improve debt management practices in retail businesses. Research by Alkurdi and Mardini (2020) emphasizes that implementing an efficient debtor management tool can enhance cash flow, reduce defaults, and increase profitability. Similarly, Chernyshev, Zeadally, and Baig (2019) assert that digital debtor management tools can streamline processes, enhance accuracy, and enable proactive debt collection. Furthermore, studies have revealed the adverse consequences of poor debtor management in the retail sector. For instance, a study by Bernanke (2018) found that inefficient debt management practices often lead to financial distress, reduced creditworthiness, and even business failure. Similarly, research by Mogaji et al. (2021) highlighted that retail shops with inadequate debtor management tool experience higher default rates and increased financial vulnerability. Opio Peter's retail shop in Nagongera Town Council represents a suitable context for this research due to its vibrant retail sector and the prevalence of debtor-related challenges faced by local businesses. By focusing on Opio Peter's Retail Shop as a case study, this research aimed at providing practical insights and recommendations for improving debtor management practices. The research adopted mixed-methods approach, combining quantitative data analysis with qualitative interviews and observations. The

quantitative analysis involved collecting data on debtor levels, payment patterns, from Opio Peter's retail shops in Nagongera Town Council. The qualitative component involved conducting interviews with Opio peter to gain an in-depth understanding of his debtor management practices, challenges faced, and potential solutions. In conclusion, the research aimed to address the pressing issue of debtor management in the retail sector. With the developed comprehensive debtor management tool, this has contributed to the financial stability and long-term viability of retail businesses.

1.3 Problem statement

In the global retail landscape, local clientele plays a pivotal role in sustaining the success of retail shop businesses. These customers not only make purchases but also engage in supplementary services, often availing credit in the form of goods from their neighborhood retail establishments. While retail enterprises hold significant profit potential, their slender profit margins per item necessitate meticulous management; any operational shortcomings can precipitate the demise of such ventures. Presently, a critical challenge undermining the stability of retail shops revolves around the effective management of debtors. The susceptibility of a business to failure is directly correlated with the accumulation of debtors. Even Opio Peters' retail shop is not immune to this challenge. The existing mechanism for handling debtor-related information primarily entails manual bookkeeping, wherein records of items lent to debtors, anticipated payment dates, as well as client identities and locations are logged. Additionally, some debtors remain unaccounted for in formal records, relying solely on trust between shop owners and these customers. The inability to consistently track and manage debtors has proven catastrophic for numerous retail establishments, resulting in their untimely closure. This research endeavor aims to address this critical issue by developing an innovative debtor management tool tailored specifically for retail shops. Through this tool, the shortcomings of current practices will be mitigated, fostering enhanced visibility, organization, and control over debtor-related information. Consequently, this solution holds the potential to safeguard the longevity of retail businesses by bolstering their financial stability and operational resilience.

1.4 Main objective

The main objective is to develop a comprehensive and effective retail shop debtor management tool for tracking, analyzing and managing debtors.

1.5 Specific objectives

i To review literature and gather requirements for retail shop debtor management tool under Opio Peter's Retail shop located in Nagongera town council, Tororo District.

ii To analyze the requirements and design a computerized debtor management tool.

iii To implement a computerized debtor management tool that will enable enhanced debt collection through automation of payment reminders, facilitate communication between retailors and debtors, streamline debt tracking.

iv To test and validate the system.

1.6 Significance

The research aimed to address the challenges faced by small-scale retailers, focusing on Opio Peter's Retail Shop as a case study. By investigating debt management practices, the research intended to provide insights to enhance financial stability and sustainability for local businesses. The findings contributed to the development of effective debt management strategies, improved cash flow management, and increased profitability. Ultimately, this research had the potential to positively impact the economic growth and livelihood of the local community by empowering small retailers to thrive in a competitive market environment.

1.7 Scope

The research has a specific scope that focuses on examining debtor management practices and challenges faced by small-scale retailers in the area. The study investigated the factors such as credit policies, repayment strategies, financial record-keeping, and cash flow management within the context of Opio peter's retail shop. The research involved data collection through interviews, surveys, and financial analysis to gain a comprehensive understanding of the debt management system. The scope also included providing recommendations and strategies to improve the debt management practices of retail shops in Nagongera Town Council, ultimately benefiting the local business community.

CHAPTER TWO

1.1 Current Debtor Management Practices in Retail Shops

According to Wadesango, Tinarwo, Sitcha, and Machingambi (2019), debtor management is a critical aspect of financial stability for retail shops, as it directly affects their cash flow, profitability, and overall business performance. Effective debt collection strategies are essential for retail shops to recover outstanding debts promptly. According to Lu, Lu, Wang, and Wu (2021), implementing a systematic approach to debt collection, such as establishing clear payment terms, sending timely reminders, and employing effective communication channels, can significantly improve debt recovery rates. Conducting thorough credit evaluations and risk assessments is crucial to ensure that retail shops extend credit only to reliable customers. As noted by Oyerinde (2022), incorporating credit scoring models, analyzing customers' financial histories, and setting credit limits based on their creditworthiness can mitigate the risk of bad debtors and improve overall debtor management. The adoption of automation and technology solutions can streamline debtor management processes in retail shops. According to Walker (2023), leveraging digital platforms for invoicing, payment reminders, and tracking outstanding debts can enhance efficiency and reduce human error, thus improving the overall debtor management. Maintaining strong customer relationships is vital for successful debtor management in retail shops. As highlighted by Davis (2022), establishing open lines of communication, addressing customer concerns promptly, and offering flexible repayment options can foster trust and cooperation, leading to better debt recovery and customer retention. Collaborating with financial institutions can provide retail shops with additional resources and support in debtor management. Smith (2021) suggests that establishing partnerships with banks or microfinance institutions can offer access to credit facilities, debt refinancing options, and professional advice on managing debtors effectively.

1.2 Challenges and Issues in Retail Shop Debtor Management

One of the major challenges in retail shop debtor management is dealing with late payments and non-payment by debtors. According to Johnson (2023), debtors' failure to pay on time or defaulting on their debts can disrupt cash flow, increase financial risks, and strain the overall debtor management system of retail shops. Inadequate credit policies can contribute to challenges in debtor management for retail shops. L. Smith (2022) suggests that unclear or lenient credit

policies, such as not conducting thorough credit evaluations or setting appropriate credit limits, can lead to higher instances of bad debtors and difficulties in recovering outstanding amounts. Insufficient communication and follow-up with debtors regarding their debts pose significant challenges in debtor management for retail shops. Davis (2023) emphasizes the importance of maintaining regular contact, sending timely reminders, and establishing effective communication channels to improve debt recovery rates and avoid prolonged outstanding debts. Limited financial resources can hinder effective debtor management in retail shops. According to Walker (2022), the lack of access to credit facilities or capital for debtor restructuring can make it challenging for retail shops to address outstanding debts promptly, resulting in increased financial pressure and potential accumulation of bad debtors. Poor record-keeping and reporting practices can impede debtor management in retail shops. Johnson (2023) highlights the significance of maintaining accurate and up-to-date records of debtors, payments, and customer interactions. Inadequate record-keeping can lead to confusion, errors, and difficulties in tracking and managing debts effectively.

1.3 Best Practices and Innovative Approaches in Retail Shop Debtor Management

According to T. Smith (2022) the integration of advanced features such as real-time inventory tracking, automated billing, and customer account management allows retailers to efficiently track sales, monitor credit, and manage debt. This approach reduces errors, improves transparency, and enables timely debt collection. Adopting a systematic approach to customer credit assessment and monitoring is vital for effective retail debt management. By conducting thorough credit checks, including credit history and financial analysis, retailers can make informed decisions on extending credit to customers. According to Anderson (2021) regular monitoring of customer credit and setting credit limits helps identify potential risks and enables proactive debt management. Providing customers with flexible payment options is a proactive strategy to prevent debt accumulation and enhance customer satisfaction. According to Brown and Garcia (2023) offering instalment plans, layaway programs, and online payment portals can reduce the likelihood of defaults and encourage timely payments. This approach fosters positive customer relationships while minimizing the risk of bad debts. Maintaining open and effective communication channels with customers is essential for successful debt management. A study by Jones and Martinez (2022), found out that promptly addressing payment reminders, sending personalized notifications, and establishing clear debt recovery policies can help retailers

maintain positive relationships with customers while ensuring timely debt collection. The utilization of data analytics and AI tools can revolutionize retail debt management practices. These technologies enable the analysis of customer behaviour patterns, identification of high-risk customers, and prediction of potential defaults. Lee (2023), documents that by leveraging these insights, retailers can implement targeted debt recovery strategies, optimize credit decisions, and minimize losses. The research focused on the Retail Shop Debt Management System in Nagongera Town Council, Tororo District with a case study on Opio Peter's Retail Shop, this review highlights key best practices and innovative approaches for effective retail debt management. By implementing robust POS systems, conducting thorough customer credit assessments, offering flexible payment options, establishing effective communication channels, and leveraging data analytics and AI tools, retailers optimized debt management practices, reduced risks, and enhanced financial stability.

CHAPTER THREE

3.1 Introduction.

This chapter lay out and presented the system design, data collection methods, sampling strategies, data analysis and ethical considerations that were used in the study.

3.2 Area of study.

The study was conducted at Opio Peter's retail shop in Nagongera Town council, Tororo district because of its good and quality services that it offers to its customers as well as their friendly prices. Henceforth the focus was towards understanding the mode of operation of the current debtor management practices at Opio Peter's retail shop.

3.3 Sampling.

This study involved 7 respondents from whom data was collected namely; 3 customers, 3 workers (Opio peter's assistants) and Opio himself who acts as the overall manager of his business. Non probability sampling was used as it involved non-random selection based on convenience allowing one to easily collect data from the respondents.

3.4 System Development.

The major development approach employed for this project was the Structured System Analysis and Design Methodology (SSADM). SSADM follows the waterfall life cycle model starting from the feasibility study to the physical design stage of development. One of the main features of SSADM is the intensive user involvement in the requirements analysis stage. The users are made to sign off each stage as they are completed assuring that requirements are met. The users are provided with clear, easily understandable documentation consisting of various diagrammatic representations of the system. SSADM breaks up a development project into stages, modules, steps and tasks. The first and foremost model developed in SSADM is the data model. It is a part of requirements gathering and consists of well-defined stages, steps and products. The 11 techniques used in SSADM are logical data modelling, data flow modelling and entity behavior modelling. The specific methodology to be employed was the Rapid application development (RAD). It is based on prototyping and iterative development with no specific planning involved. It focuses on gathering customer requirements through workshops or focus groups, early testing of the prototypes by the customer using iterative concept, reuse of the existing prototypes (components), continuous integration and rapid delivery. In the RAD model, the functional

modules are developed in parallel as prototypes and are integrated to make the complete product for faster product delivery. A prototype is a working model of the system, but with limited functionality. Henceforth the most important aspect for this model to be successful is to make sure that the prototypes developed are reusable.

3.5 Data collection tools.

Various methods were used in data collection and through these methods, data was achieved that made the system a success. The methods included the following;

3.5.1 Sampling methods.

The study considered non probability sampling i.e., purposive sampling as it involved the researcher to use their expertise to select a sample that was most useful to the purposes of research. It was used in qualitative research as one got detailed knowledge about a specific phenomenon rather than making statistical references. Henceforth interviews and questionnaires were used for data collection.

3.5.1.1 Questionnaires

These are research instruments which consist of a set of questions that aims to collect information from a respondent. Thus, it consisted of open-ended questions that offered the respondent to elaborate on their thoughts. Finally, the results were compiled from the questionnaires collected from the different correspondents.

3.5.1.2 Interviews

This technique involved asking open-ended questions to converse with respondents and collect elicit data about a subject. This involved the interviewer who in most cases is the subject matter expert to understand respondent opinions in a well planned and executed series of questions and answers. These were used as they help one explain, better understand and explore research subjects' opinions, behavior, experiences and phenomenon.

3.6 System Analysis and Design.

Research design refers to the overall strategy utilized to carry out research that defines a logical plan to tackle established research question(s) through the collection, interpretation, analysis, and discussion of data (Wikipedia). There are a number of tools that were used to represent facts from the collected data. The tools included; a Context Diagram, Data Flow Diagram, Use-case Diagram and an Entity Relationship Diagram (ERD). These clearly represent the raw facts gathered during the data collection process.

Context Diagram Relationships were established between the data items to show how the different entities relate with the system. The context diagram therefore shows the basic interaction of the system with its environment.

3.6.1 Data Flow Diagram.

A Data Flow Diagram (DFD) is a graphical representation of the flow of data through an information system. It can as well be used for the visualization of data processing. System designers usually start by drawing a context diagram to show the interaction between the system and outside entities. The Data Flow Diagram shows how the data moves within the system.

3.6.2 Use-Case Diagram.

A use case diagram is a representation of a user's interaction with the system that shows the relationship between users and different cases in which the user is involved. A use case diagram was used to identify the type of users of the system and the different use cases.

3.6.3 Entity relationship diagram (ERD)

An Entity relationship diagram describes things of interest. This is composed of entity types and specific relationships that exist between entities such as customers for entities with outstanding debts, payments for records of customers to settle their debts, debt for what the customer is owed to pay and relationships such as customer-payment, customer-debt, debt-payment.

3.6.4 System Implementation.

The tools employed in the implementation of retail shop debtor Management tool include the following:

3.6.5 User interface tools.

The user interface tools were used to design and create the visual components of the debtor management tool that the users interact with. These tools included, Hypertext markup language (HTML), Cascading style sheets (CSS). Interaction with the system interface was done by clicking and typing where asked.

3.6.6 Back-end tools

These were tools that were used to develop the server-side logic and functionalities of the debtor management tool, including data processing, integration with the database, business logic. These tools included, Windows 10 Operating System environment, MySQL database server. MySQL was very useful in constructing the database of the retail shop debtor Management tool. A database is a collection of interrelated data stored with minimum redundancy to serve many users

quickly and efficiently. Database was used in order to make data access easy, quick, inexpensive and flexible for the user.

3.6.7 Front end tools.

Front end tools were used to develop the presentation layer of the debtor management tool, focusing on the user interface and user experience. The front end was implemented using Hypertext Pre- processor (PHP). PHP is a server-side scripting language embedded in the HTML used to manage dynamic content, databases and session tracking.

It enabled the researcher to write simple scripts directly into the HTML files. The users were not in position to see the source code, thereby maintaining source code security. I used tools like PHP and HTML programming languages to implement the system interfaces in a Visual Studio Code programming environment.

3.6.8 Server-side tools.

The server-side tools were used to manage the server infrastructure and deployment of the retail shop debtor management tool. I used XAMPP server as a server-side database tool for implementing databases. Interaction with the system interface was done by clicking and typing where asked.

3.6.9 Client end tools

These were tools that were used to develop and manage the client-side components of the debtor management tool including front end and user interactions, such tools included HTML, CSS.

3.7 Testing and Validation.

Both unit testing and integration testing were performed on the retail shop debtor management tool to clarify the specifications of the tool to reveal possible faults and establish confidence in the system. Unit testing focused on one function at a time in that whenever the researcher designed a function, it would be tested instantly before proceeding to design another function. Integration testing was done after all the different modules had been put together to make a complete debtor management tool. Integration aimed at ensuring that all the modules of the tool work hand in hand and that they could be integrated to form a complete working system. In the end, user testing was performed. This involved the potential users of the system to test the system if it met their requirements. Software validation was done by the researcher to check whether the software product satisfies or fits the intended use i.e., if the software met the user requirements, not as specification artifacts or as needs of those who would operate the software only; but, as the needs

of all the stakeholders (such as users, operators and administrators). Analysis of the system n development Feasibility study. The goal of the feasibility study was to identify the operational, technical and economic and environmental benefits of the developed system. “Retail shop debtor Management tool”. Major objective of the debtor management tool was to provide users desired service. The new retail shop debtor management tool registers borrowers, adds them to the debtors list, tracks debts and makes payments, can also provide payment reminders to the user. Ethical Considerations During Data Collection and Analysis. The ethical issues that were considered during data collection and analysis include the following;

i). Honesty: The data results, methods, procedures and publication status were reported honestly by the researcher. The researcher did not falsify or fabricate data and neither did he deceive the public nor colleagues on the data collected and the reasons for collecting data.

i**i). Integrity:** The researcher endeavored to be sincere and consistent in all his actions during the research process and kept his promises and agreements with all the stakeholders of the retail shop debtor Management tool.

iii). Respect for intellectual property: During the course of this research project, the researcher strived never to copy, or plagiarize other people’s work but instead considered text citation and referencing in a bid to acknowledge the source of the information, that is, statistics, tables, expressions and phrases.

iv). Objectivity: The researcher endeavored to avoid systematic bias in all aspects such as natural bias in reporting data, avoided defective measuring devices, ensured proper sampling and carefully observed the respondents considering the indeterminacy principle.

v). **Confidentiality:** The researcher protected any piece of sensitive information that was provided by respondents and as well followed the guidelines that govern protection of confidential information. Some of the ethical considerations included privacy and data security, transparency, fairness and nondiscrimination, accuracy and accountability.

CHAPTER FOUR

4.0 Introduction.

This chapter presents the results from system analysis as well as the strengths and weakness of the current system. This chapter as well covers the system study, benefit and weakness of the current system, system requirements (user requirements, functional requirements, and non-functional requirements) and the design of the system (system architecture, context diagram, data flow diagram, entity relationship diagram).

4.1 System study and Analysis.

The study was carried out at Opio Peters retail shop in Nagongera Town council in Tororo district. The main purpose of the study was to develop a computerized debtor management tool that would curb the challenge undermining the stability of retail shops due to bad debtors It involved studying the existing system of debtor management, identifying its strengths and weaknesses. The information acquired from the study was done by employing a number of data collection methods including questionnaires and an interview guide where the questionnaires were analyzed to give the basis to design a new system**.**

4.1.1 Findings from the questionnaire.

Questionnaires were given out to different respondents including 3 customers,3 workers and the manager who is Opio himself. The responses were presented as follows; The opinions of the respondents were solicited based on the question; how do the customers of Opio peters' retail shop buy goods, either cash payments or some take the goods on credit? Depending on the findings from the questionnaires, it was found out that the intention was to sell the goods on cash basis, but some of the trusted customers were offered goods on credit and would pay later. How are the debtors' records managed? Debtors' records were manually written on paper and record books and following up information was a bit hectic and tiresome; some customers were given goods freely just depending on trust that they would pay back. what is the mode of reminding debtors on the overstayed debts? Debtors who took long to pay back would be waited and reminded on return to take more goods, following up to their homes physically and demand for the payment to be made. This had proved a serious challenge in managing debts. This therefore affected the business and would result in unexpected losses at Opio Peter's retail shop hence lowering its income. The manager further highlighted that the only available ways on how to manage debtors was through book records and basing on trust that the debtor would pay after

some time. This implies that both the customers and staff were in a dilemma on how to manage debts to become effective and efficient.

4.1.2 Findings from interview.

A total of 7 respondents were interviewed and the responses are presented below; The opinions of the respondents were solicited based on the questions asked;

a) Do you happen to have a number of forums through which debtors can place ideas for their debts at Opio Petere's Retail shop? All the respondents pointed out the use of cellular phones as a means that is used by customers to place their ideas through messages and emails.

b) Discuss the challenges that you have registered as a result of customers taking goods on credit using the forums mentioned above, included Loss of debts due to bad debtors, late payments, loss of customers as they buy goods from other retail shops as they avoid Opio's shop where they were being demanded.

c) Which measures can be taken to curb the challenges you have cited, Many of the respondents suggested that a computerized debtor management tool should be employed at Opio peter's retail shop so as to enable sending of payment reminders, update the workers and the manager on the over stayed debts, debts being paid and those not yet paid, provide the business on the information on good borrowers and bad borrowers so as to know who to give the goods on credit and who should not be given as the information on good debtors and bad debtors is provided, the tool provides the information on how much is to be paid and provides a balance option on how much has been paid and how much is due to be paid. In addition, it should improve efficiency and effectiveness at Opio peters retail shop.

d) "Which features can be included in the Retail shop debtor management tool to make your business more satisfying to its needs?" This question was directed to the staff members of Opio Peters retail shop in Nagongera town council. The respondents suggested that the tool should automate payment reminders, give a provision of making payments, adding borrowers, provide information on over stayed debts, debts in normal payment period, delete borrowers, in addition, interfaces for exploring the different functionalities of the tool, searching for debtors as well as a form of which commodity taken and the unit price, cost price of the commodity taken, date commodity was taken and expected payment date.

4.2 Current System.

The customers of Opio Peter's retail shop have to either pay cash or take goods on credit and pay later. These debtors' details are taken and registered in the debtor's book, debtors who take long to clear up their debts would be called using a phone or followed up to their homes, some debtors would just take the goods without taking record of their details just depending on mere trust for always being good customers. This is so inconveniencing, expensive and time consuming at the same time. Furthermore, making simple inquiries about the debts by debtors requires physical appearance at the shop or making phone calls and yet sometimes the debtors are not honest enough to receive calls from creditors and the call Centre is either too busy or has no one readily available to receive the calls. It is on this basis that the study of developing a Retail shop debtor Management Tool came in handy to address some of the challenges experienced by Debtors and the staff at Opio Peter's retail shop.

4.3 Advantages of the Retail Shop Debtor Management tool.

Using a retail shop debtor management tool offers several advantages for retailers, the following are some of the advantages as seen below.

Improved Cash Flow: The tool helps retailers optimize their cash flow by streamlining the debt collection process. By tracking and managing outstanding balances efficiently, retailers can ensure timely payments and reduce the time it takes to convert accounts receivable into cash.

Reduced Bad Debt: Effective debtor management tools enable retailers to identify and take prompt action against customers with overdue payments. By implementing timely reminders and escalating collection efforts, retailers can minimize bad debt and improve their overall financial health.

Enhanced Efficiency: The automation provided by debtor management tools eliminates manual and repetitive tasks involved in debt collection. This saves time and reduces the administrative burden on retail staff, allowing them to focus on more strategic activities.

Accurate Credit Risk Assessment: These tools allow retailers to evaluate the creditworthiness of customers based on their payment history, credit limits, and other relevant factors. By making informed decisions on credit approvals and limits, retailers can minimize the risk of granting credit to customers who may default on payments.

Improved Customer Relationships: A debtor management tool facilitates proactive communication with customers regarding their outstanding balances. By sending timely

reminders and maintaining clear communication logs, retailers can maintain positive relationships and address any payment issues promptly and professionally.

Enhanced Decision-Making: The reporting and analytics capabilities of debtor management tools provide valuable insights into customer payment behavior, cash flow projections, and debt collection performance. Retailers can use this information to make data-driven decisions, implement better credit policies, and improve overall financial planning.

Streamlined Invoicing and Billing: These tools simplify the process of generating invoices and billing statements, reducing errors and improving efficiency. Retailers can customize invoices, include payment terms, and track the status of each invoice, ensuring accurate and timely billing to customers.

Better Payment Tracking: Retailers can easily track and record customer payments within the debtor management tool. This enables them to have a real-time overview of payment statuses, identify any discrepancies, and reconcile payments more efficiently.

Integration with Accounting Systems: Many debtor management tools integrate seamlessly with existing accounting systems. This integration ensures accurate synchronization of financial data, eliminates the need for manual data entry, and provides consistent and up-to-date financial information across different systems.

Compliance and Audit Trail: Debtor management tools help retailers maintain compliance with financial regulations and provide an audit trail for debt collection activities. By recording all customer communications, payment reminders, and collection efforts, retailers can demonstrate transparency and adhere to legal requirements.

4.4 Features of a Retail Shop Debtor Management Tool

A retail shop debtor management tool is designed to help retailers efficiently manage their debtors, which are customers who owe money for products or services.

Customer Database: The tool provides a centralized customer database where retailers can store and manage customer information, including contact details, payment history, credit limits, and any outstanding balances.

Credit Limit Control: It allows retailers to set credit limits for each customer based on their creditworthiness. The tool tracks and enforces these limits, preventing customers from exceeding their approved credit limits.

Invoicing and Billing: The tool generates and manages invoices and billing statements for each customer. It enables retailers to create professional-looking invoices, apply discounts, and include payment terms and due dates.

Payment Tracking: Retailers can track and record customer payments within the debtor management tool. It provides a clear overview of payment statuses, outstanding balances, and payment history for each customer.

Payment Reminders: The tool automates the process of sending payment reminders to customers who have overdue balances. Retailers can set up customizable reminders through email, SMS, or automated phone calls.

Aging Analysis: It offers an aging analysis feature that categorizes outstanding balances based on their age. Retailers can quickly identify customers with overdue payments and take appropriate actions to collect the outstanding amounts.

Credit Control and Collections: The tool provides functionalities to monitor and control credit risks. It allows retailers to define credit policies, manage debt collection processes, and escalate collection efforts when necessary.

Reporting and Analytics: Retailers can generate reports and access analytics related to debtor management. These reports provide valuable insights into customer payment behavior, outstanding balances, cash flow projections, and overall debt collection performance.

Integration with Accounting Systems: The debtor management tool can integrate with existing accounting systems, such as ERP or POS systems. This integration ensures accurate and real-time synchronization of financial data, minimizing manual data entry and improving efficiency.

Customer Communication Logs: The tool maintains a log of all customer communications, including emails, phone calls, and notes. This feature helps retailers keep a comprehensive record of interactions with customers regarding payments, disputes, or payment plans.

4.5 System analysis.

This section focuses on the user, functional and non-functional requirements that guide the design and implementation of the Retail Shop Debtor Management Tool.

4.5.1 User requirements.

The major users of the system include the workers in the retail shop and the owner of the business who doubles as the manager of his business.

Their user requirements include the following.

i. The workers should be able to log in the retail shop debtor management tool and view the different functionalities of the tool, explore the tool, add borrowers, make payments search for a borrower as well as removing a borrower.

ii. The manager should be able to login, change password, update their login details, and deleting where necessary.

iii. The managers should also be able to access the dashboard to view the active debts, total cash in debts, total number of borrowers, then should be able to view the overstayed debts.

4.5.2 Functional requirement.

Functional requirements refer to system capabilities, what the system is really capable of doing, the following are the functional requirements of a retail shop debtor management tool.

Customer Information Management: The tool provides a robust customer database to store and manage customer information. It allows retailers to capture and update customer details such as contact information, credit limits, payment terms, and purchase history. This requirement ensures that retailers have a centralized and organized repository of customer data for effective debtor management.

Credit Limit Control: The tool offers functionality to set and manage credit limits for customers. Retailers are able to define credit limits based on creditworthiness and track customers' credit utilization in real-time. The system provides alerts or prevents customers from exceeding their approved credit limits, ensuring credit control and risk management.

Invoicing and Billing: The debtor management tool supports the generation and management of invoices and billing statements. It allows retailers to create professional-looking invoices, customize invoice templates, include relevant details such as product descriptions, pricing, discounts, and tax information. The system also enables retailers to apply payment terms and due dates, facilitating accurate and timely billing to customers.

Payment Tracking and Reminders: The tool provides functionality to track and record customer payments. It allows retailers to record payment receipts, update payment statuses, and maintain a clear overview of outstanding balances. Additionally, the system automates payment reminders

and notifications to customers with overdue payments. Retailers are able to configure and schedule reminders through various communication channels like email, SMS, or automated calls.

Reporting and Analytics: The debtor management tool offers robust reporting and analytics capabilities. It provides pre-defined reports and customizable dashboards that offer insights into debtor data, payment trends, aging analysis, and collection performance. Retailers are able to generate reports on outstanding balances, payment history, customer aging, and other key metrics to facilitate decision-making and monitor the effectiveness of debt collection strategies.

4.5.3 Non-functional requirements.

Non-functional requirement is any requirement that is not a functional, data or process requirement concerned with defining the precision which the solution will record or produce data. Non-functional requirements support the functional requirements and determine how the system must perform. Generally non-functional requirements are;

i **Performance:** System performance defines how fast a system can respond to a particular user's action under a certain workload.

ii. Reliability: Is the probability and percentage of the software performing without failure for a specific number of uses or amount of time.

iii **Flexibility requirement:** Each part of the tool should be independent, so that changing of one part does not affect the other part and new parts can be added to increase functionality.

iv Accuracy requirement: The tool should be more accurate in terms of computing the total cash in debts, computing over stayed debts, active debts and many others functionalities of the tool.

v. Usability: This feature concerns the users i.e. it indicates how effectively they can learn and use the tool.

4.6. Hardware/ Software requirements.

4.6.1 Hardware requirements.

The hardware requirements include;

i. A Universal hard disk drive.

ii. A hard disk of at least 80GB.

iii. Random Access Memory (RAM) not less than 1GB.

iv. An uninterruptible power supply (UPS).

4.6.2 Software Requirements.

The software specifications required on the computer system include;

i. XAMPP (Version3. 2.4).

ii. Windows 7 or higher version.

iii. Internet browser such as Mozilla Firefox and Google Chrome.

iv. The system should have 32/64 bits Operating System.

4.7 System Development approach.

The requirements determined were used to design the Retail Shop Debtor Management Tool. The major development approach that was employed for this project was the Structured System Analysis and Design methodology. SSADM followed the waterfall life cycle model starting from the feasibility study to the physical design stage of development. One of the main features of SSADM is the intensive user involvement in the requirements analysis stage**.**

4.8 Requirement Analysis and Definition

This stage involved consulting the stakeholders of the system such as the management of Opio Peter's retail shop and a few customers so as to establish the requirements and services that the end-user expected from the system. It involved proper definition of the nature of the scope of the problem.

4.9 System Design

The design follows system development methods. In this study, Rapid Application Development derived from Structural System Analysis and Design Methods was invoked. The design stages included; system architecture, Context Flow Diagram, Data Flow Diagram and System modelling using Use Case Diagrams.

4.9.1 System Architecture

The user interface component provides an interface for users to interact with the debtor management tool. It can be a web-based application, a desktop application, or a mobile app. The UI allows users to view and manage customer debt-related information, initiate debt collection processes, generate reports, and perform other relevant tasks. The database component stores all the data related to customers, their debts, payment history, and other relevant information. It provides a structured and organized way to store and retrieve data efficiently. The database was a relational database management system (MySQL). This component manages customer-related information, such as contact details, purchase history, credit limits, and outstanding debts. It

allows users to add new customers, update their information, and maintain an accurate record of customer debts. The debt tracking component is responsible for monitoring customer debts and tracking payment activities. It sends notifications to customers regarding their outstanding debts, upcoming due dates, and payment reminders via various communication channels such as email. Successful payments are recorded and updated in the database, reflecting the reduction in outstanding debts. The reporting and analytics component generates various reports and analytics based on customer debt data. It provides insights into debt trends, payment patterns, aging analysis, and overall debt portfolio performance. Reports include aging reports, payment history summaries, collection agent performance, and other relevant metrics to help monitor and manage customer debts effectively. The debtor management tool integrates with other systems such as point-of-sale (POS) systems, inventory management systems, and accounting software. These integrations ensure accurate and up-to-date debt-related information by syncing data between systems. For example, when a customer makes a purchase, the debtor management tool can automatically update the debt records and adjust the outstanding balance accordingly. Given the sensitivity of customer financial information, robust security measures should be in place. The architecture includes authentication and authorization mechanisms to control access to the system and ensure that only authorized users can view and modify data. Encryption and secure communication protocols are employed to protect data during transmission and storage.

4.9.2 Context Diagram.

This summarizes how information flows in a retail shop debtor management tool, information flows through various stages and components to ensure efficient management of customer debts. The flow of information begins with the input of customer data. When a new customer is added to the system, relevant information such as contact details, purchase history, and credit limits are entered into the debtor management tool. This data is stored in the database for future reference and debt management. As customers make purchases on credit or fail to make timely payments, debts are created and tracked within the system. The debtor management tool records the details of each debt, including the amount owed, due date, and any associated fees or interest. When customers make payments towards their outstanding debts, the debtor management tool facilitates payment processing. It integrates with payment gateways or systems to accept payments through various methods such as credit cards, debit cards, or online payment platforms. The payment information is securely transmitted, processed, and validated.

Once payments are successfully processed, the debtor management tool updates the customer's debt records to reflect the reduced outstanding balance. It applies the payment amount to the appropriate debt, considering any fees or interest accrued. The updated debt information is stored in the database. If a customer fails to make a payment by the due date, the debtor management tool initiates debt collection processes. It may send automated notifications, reminders, or statements to the customer via email, SMS, or in-app notifications. These communications serve to inform customers about their outstanding debts and prompt them to make payments. The debtor management tool generates reports and analytics based on the customer debt data stored in the database. These reports provide insights into debt trends, payment patterns, aging analysis, and overall debt portfolio performance. Users can review these reports to monitor the status of customer debts, identify potential issues, and make informed decisions regarding debt management strategies. Information flows between the debtor management tool and other systems within the retail environment. For example, when a customer makes a purchase using a point-of-sale (POS) system, relevant transaction details are passed to the debtor management tool to create or update the associated debt record. Similarly, updates related to inventory management, account balances, or financial transactions from accounting software are synchronized with the debtor management tool to maintain accurate and up-to-date debt information. Throughout the information flow, security measures are in place to protect customer data. Access control mechanisms ensure that only authorized users can access and modify the information within the debtor management tool. Encryption and secure communication protocols safeguard data during transmission between systems or when stored in the database.

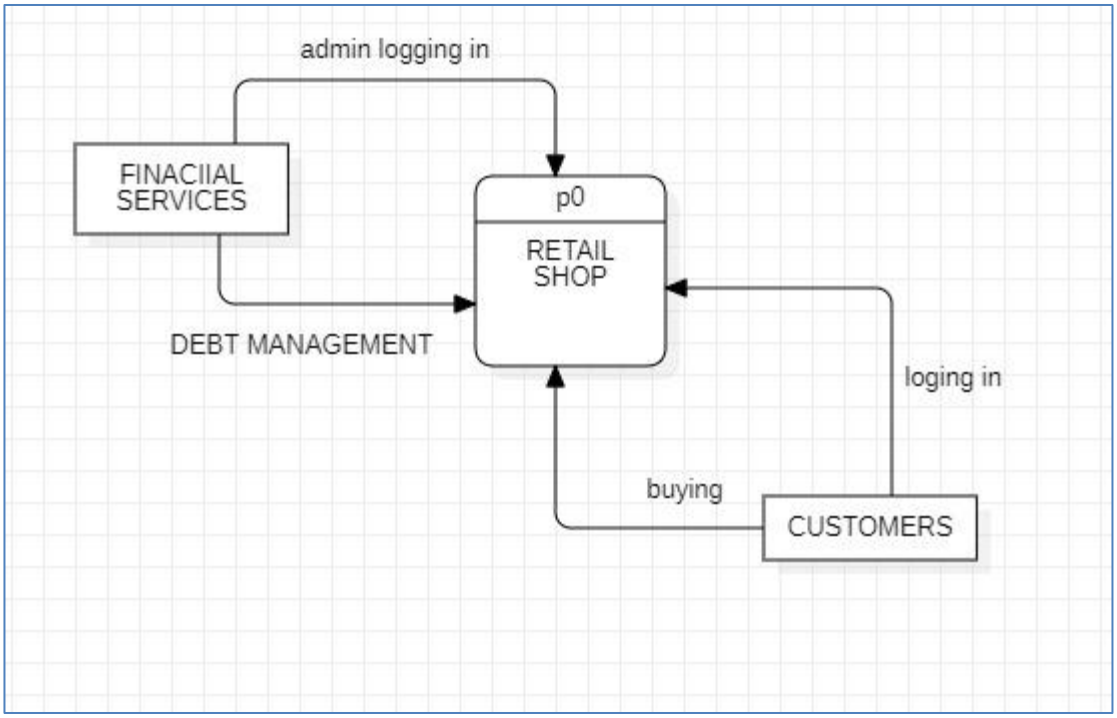

Figure 1 showing a context diagram for a retail shop debtor management tool

Data flow diagram for the retail shop debtor management tool

A data flow diagram is a graphical representation of the flow of data within a retail shop debtor management tool, the data flow diagram illustrates how data related to debtors is processed and managed.

Figure of a data flow diagram for a retail shop debtor management tool.

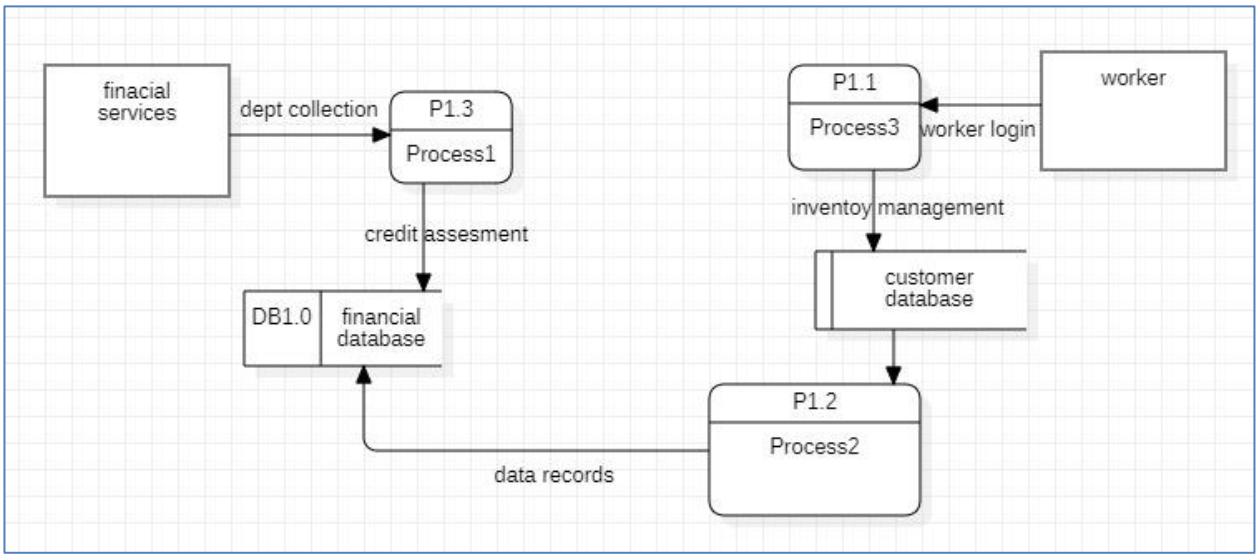

Figure 2 shows a data flow diagram for retail shop debtor management tool

4.9.3 Use case diagrams.

Use case diagrams for each entity presented in the developed system are shown below. These include the use case diagram for the workers and the manager of the shop. These showed the different activities performed by the users.

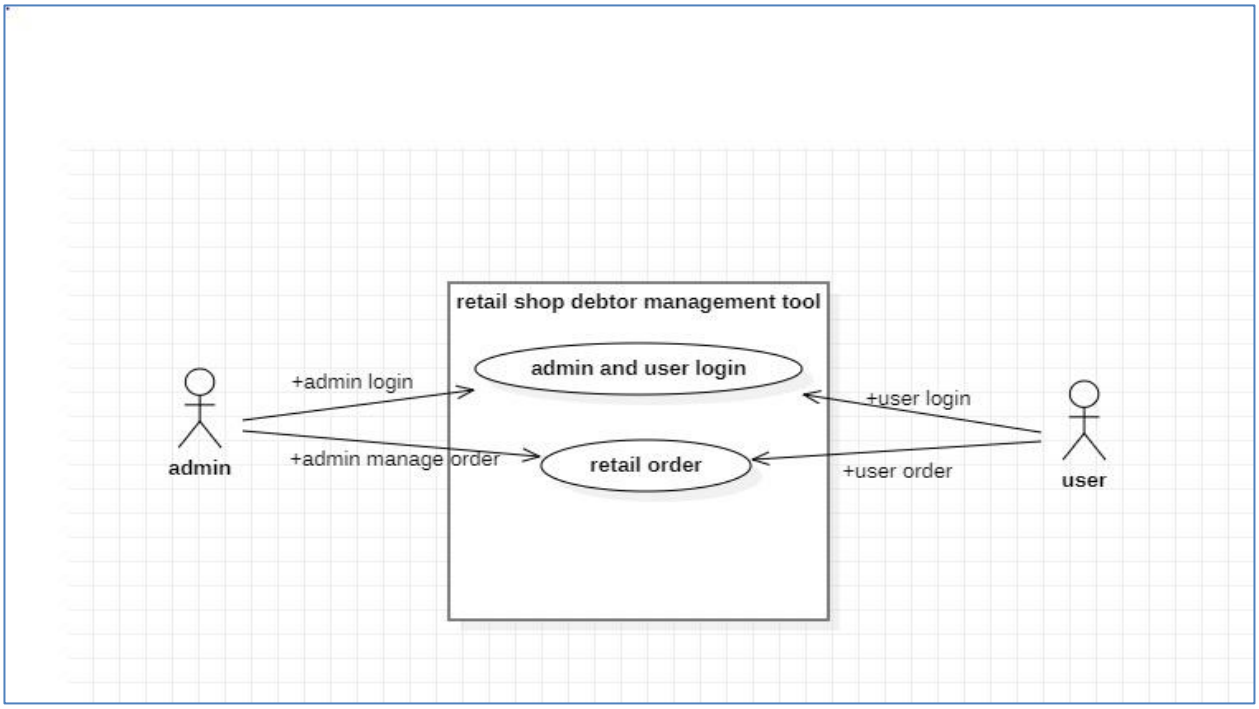

Figure 3 **showing Use case diagram for the retail shop debtor management tool.**

4.9.4 RSDMT Entity Relationship Diagram.

An Entity relationship model describes things of interest. This is composed of entity types and specific relationships that exist between entities.

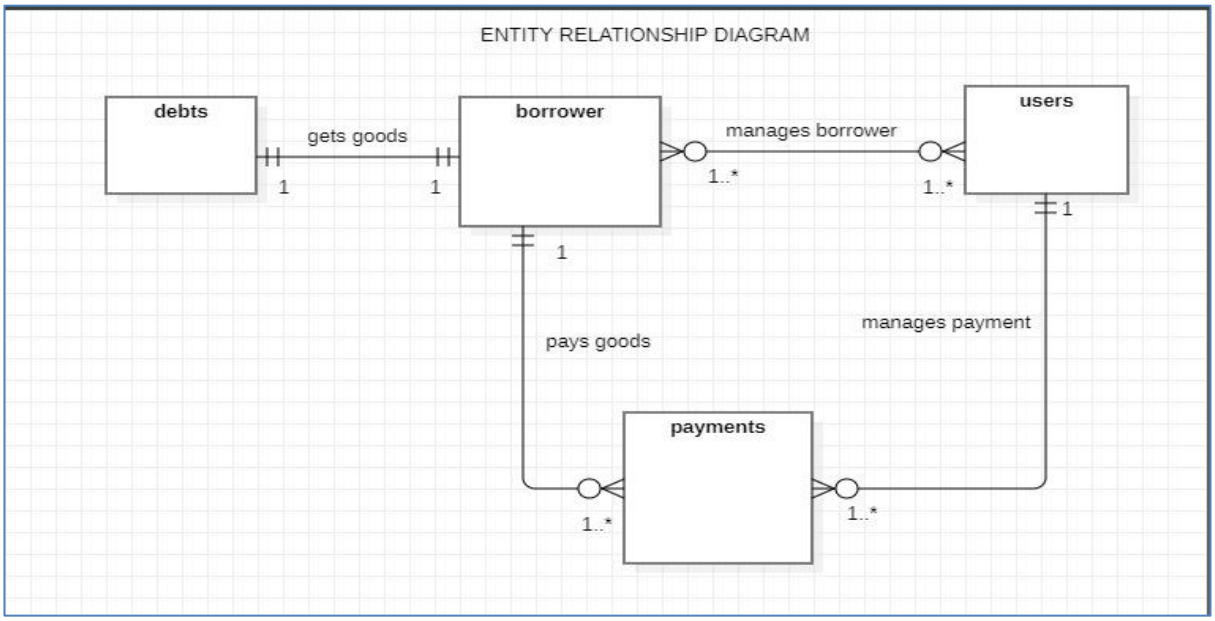

Figure 4. showing Entity Relationship Diagram for the retail shop debtor Management Tool.

4.9.5 Programming Tools for the Retail Shop Debtor Management Tool.

The programming tools included;

- Visual Studio Code
- MySQL
- XAMPP v3.2.4
- HTML
- PHP

4.9.6 Implementation and Testing.

This is where the actual development of the Retail Shop Debtor Management Tool happened which included developing the Graphical User Interface (GUI), implementing the model HTML

and PHP, and creating the system database using MySQL. Visual Studio Code was used as a text editor.

4.9.7 Coding and testing.

Coding involved transforming the identified structural design specifications into actual working computer codes after which each function was designed, a test was performed to ensure that it worked properly as per the set user expectations. Coding was done using a text editor known as Visual Studio Code, and testing was carried out on local host XAMPP server software.

4.9.8 System Documentation and Training.

The system was documented after all the tests had been performed to serve as a reference point to the system administrator to maintain the system throughout its productive life and the customers. Training of the system users was done after the testing of the system.

CHAPTER FIVE

5.0 Introduction

This area focused on fulfilling the use of the requirements i.e., functional and non-functional requirements into a working / running retail shop debtor management tool. It furthermore presented implementation of the design presented in Chapter Four.

5.1 Interface Design.

The goal of user interface design is to make the user's interaction with the retail shop debtor management tool as simple and efficient as possible, in terms of accomplishing user goals. It mainly focused on the looks and style of how a system appeared to the user referring to the workers and the manager in this case. The functional and non-functional requirements that were implemented for the retail shop debtor Management tool include: For the workers, he/she was able to view

5.2 Interface for user's homepage and searching functionality.

The user's home page for a retail shop debtor management tool typically features a clean and intuitive interface designed to provide quick access to essential information and functionalities Upon logging in or opening the tool, users are greeted with a dashboard-style home page tailored specifically for debtor management. The layout consists of various sections and components, providing an overview of the debtor-related activities and facilitating efficient navigation. A vertical navigation menu is present, offering easy access to different sections of the tool, such as Home, add debts, debtor's list, borrowers, payments. This menu remains consistent across all pages, ensuring effortless navigation. The home page prominently displays key debtor-related statistics and metrics, allowing users to assess the overall status of their debtor portfolio at a glance. This includes information like total cash in debts, active debts, borrowers and over stayed debts. A prominent search bar or search panel is available on the home page, enabling users to quickly search and locate specific debtor accounts or invoices. Users can enter debtor names, customer numbers, invoice numbers, or any other relevant keywords to initiate the search. Critical reminders, such as high-risk debtors, approaching due dates, or significant changes in debtor status, is highlighted prominently on the home page. This helps users proactively address potential issues and take appropriate actions.

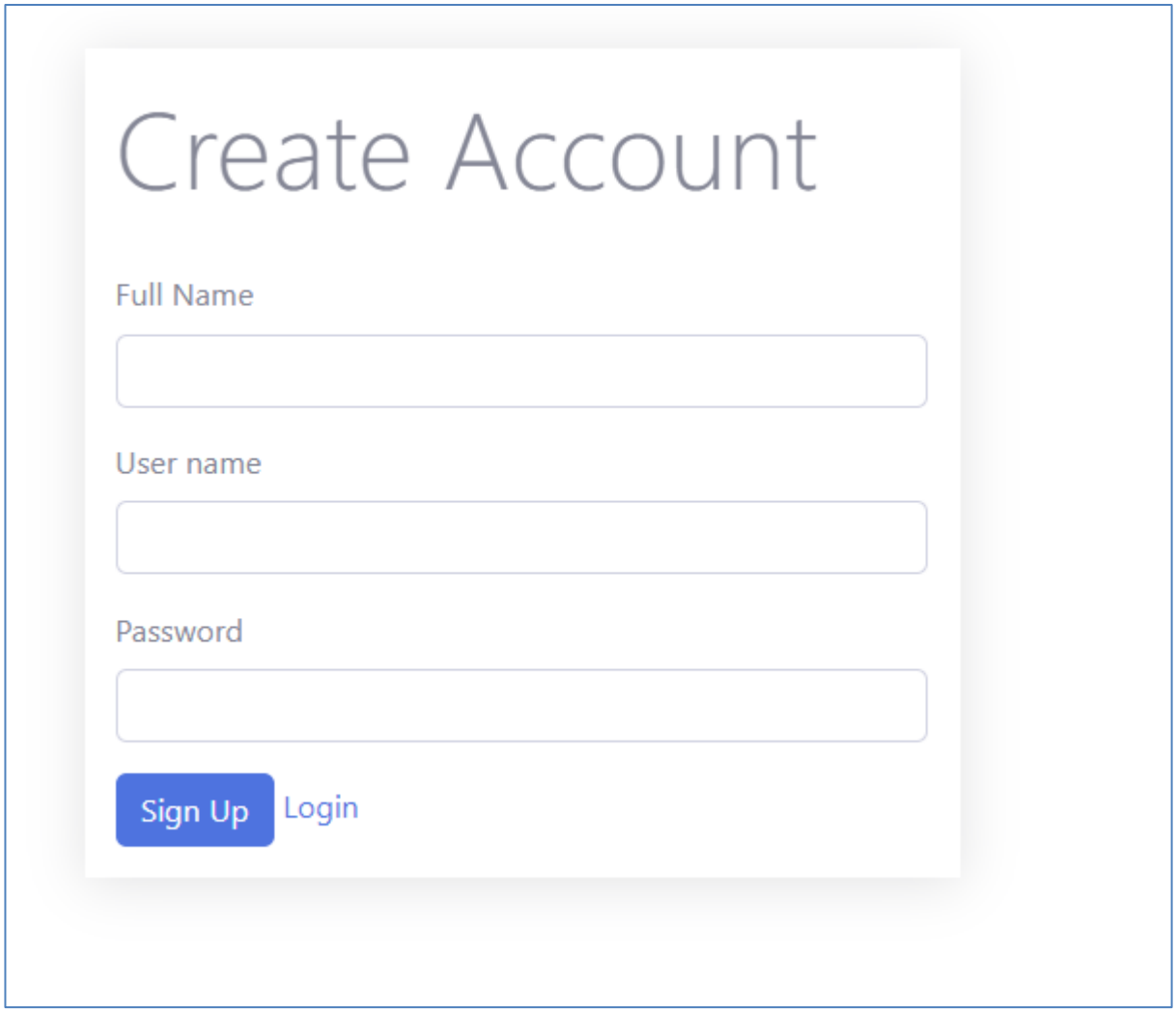

Figure 5. showing the interface of how to create the user account

Here the user creates an account in order to sign up to the retail shop debtor management tool. after signing up, the user logs in using the login interface as seen below

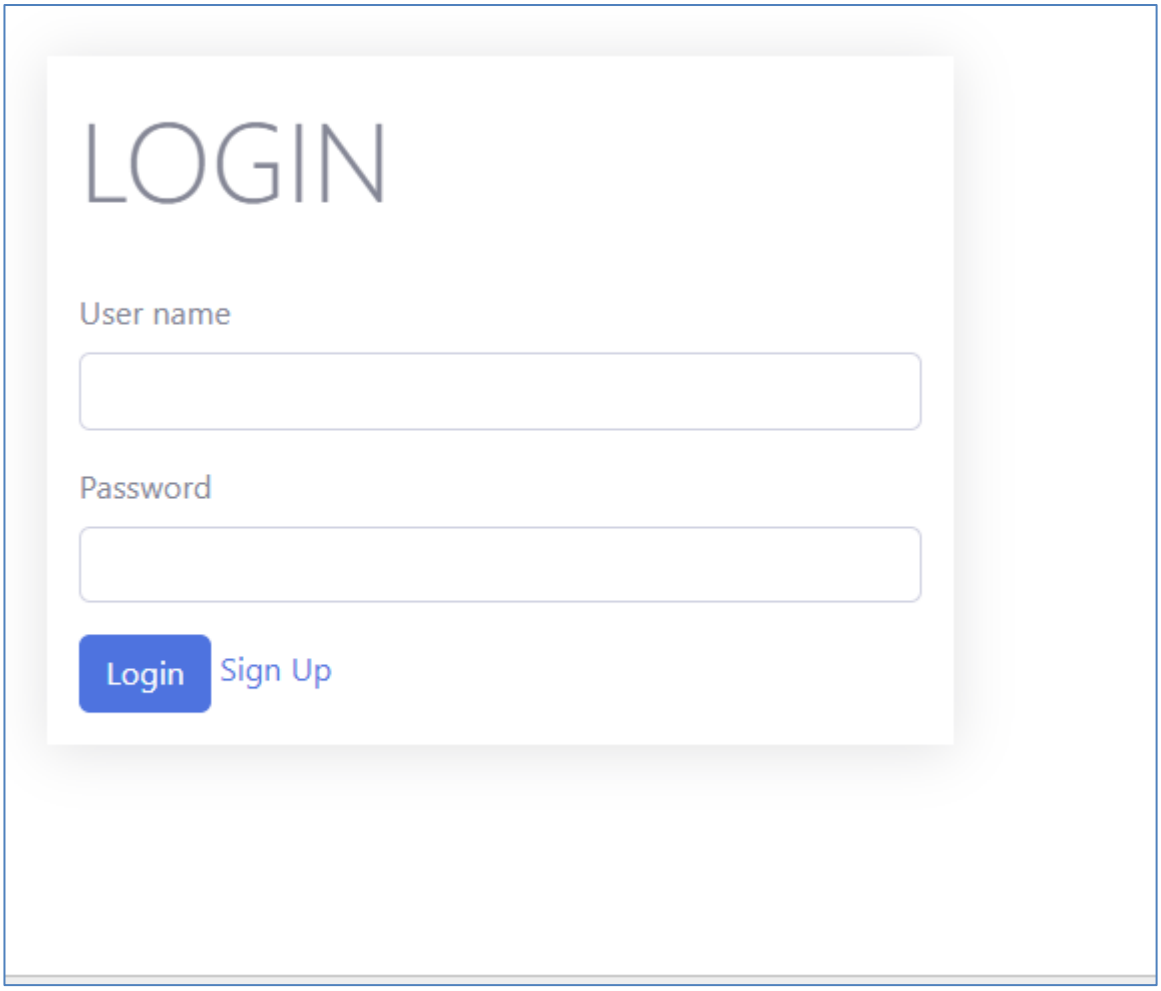

Figure 6. showing an interface of how the user logs in

After logging in to the tool, the following interface appears and the home page and the dashboard can be as seen below

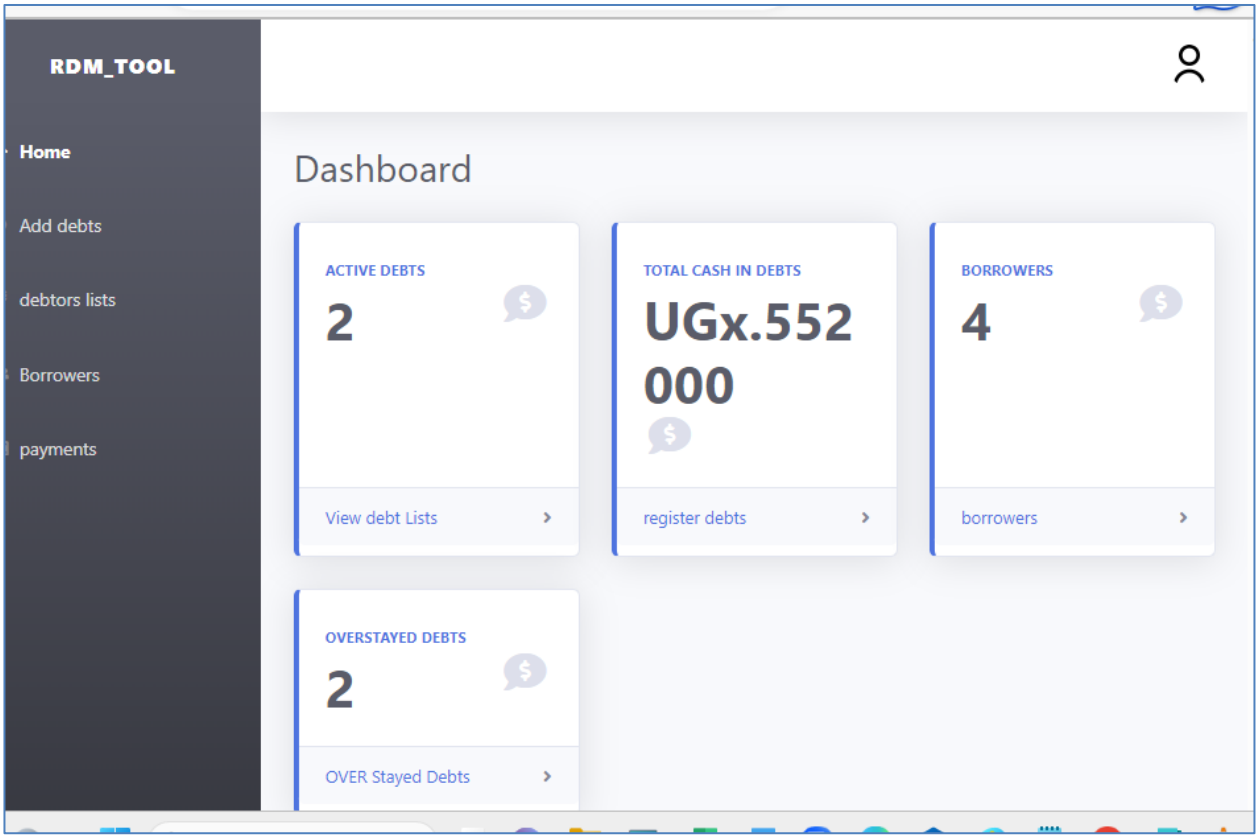

Figure 7. showing the dashboard and one can navigate through

The user can then navigate through the system and perform various tasks to the retailer shop debtor management tool. For example, the user can first add a borrower as seen below

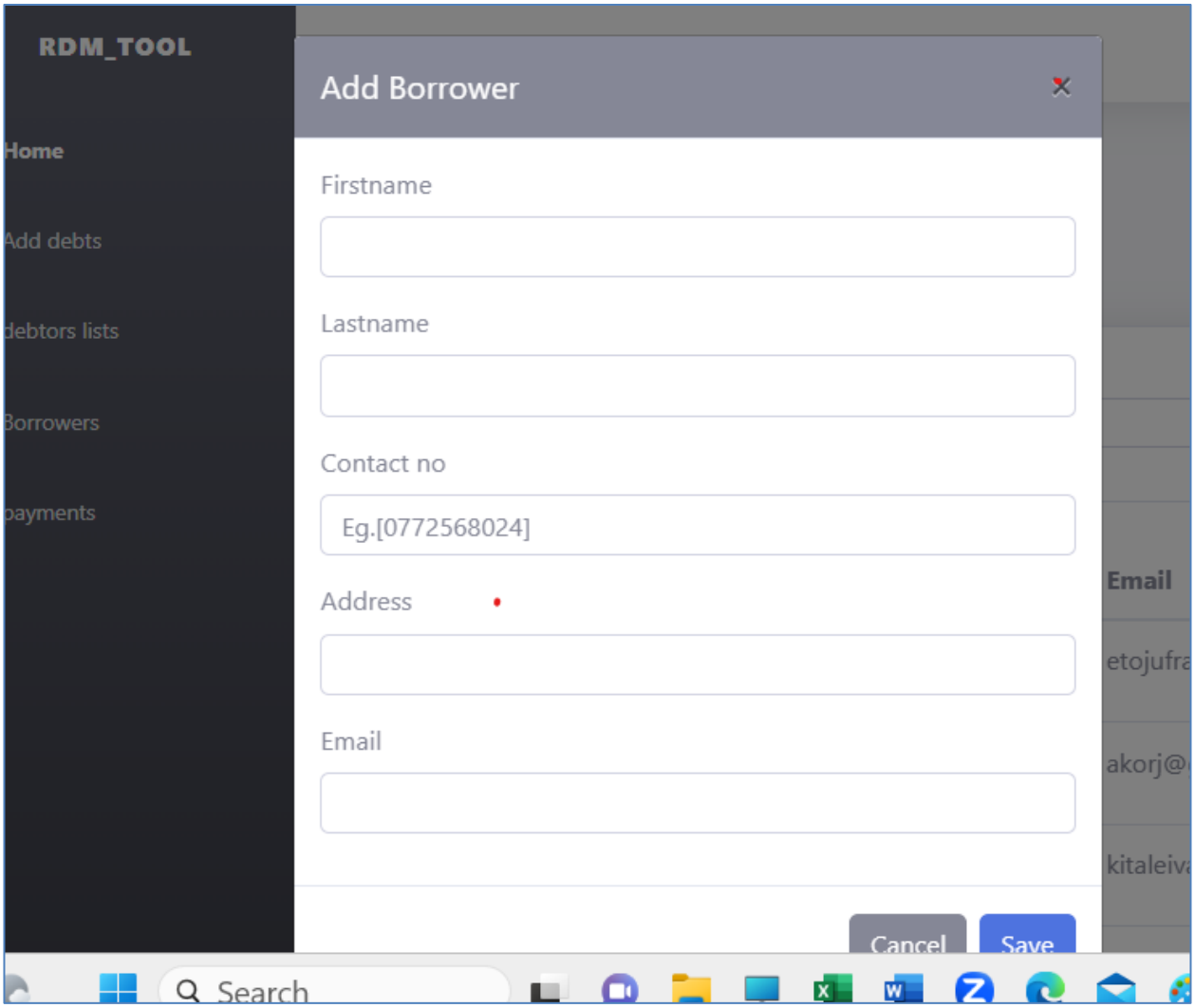

Figure 8. showing how one can add a borrower

After the borrowers have been added, one can add debts to debtors who are only in the borrowers list, using the add debts interface as seen below

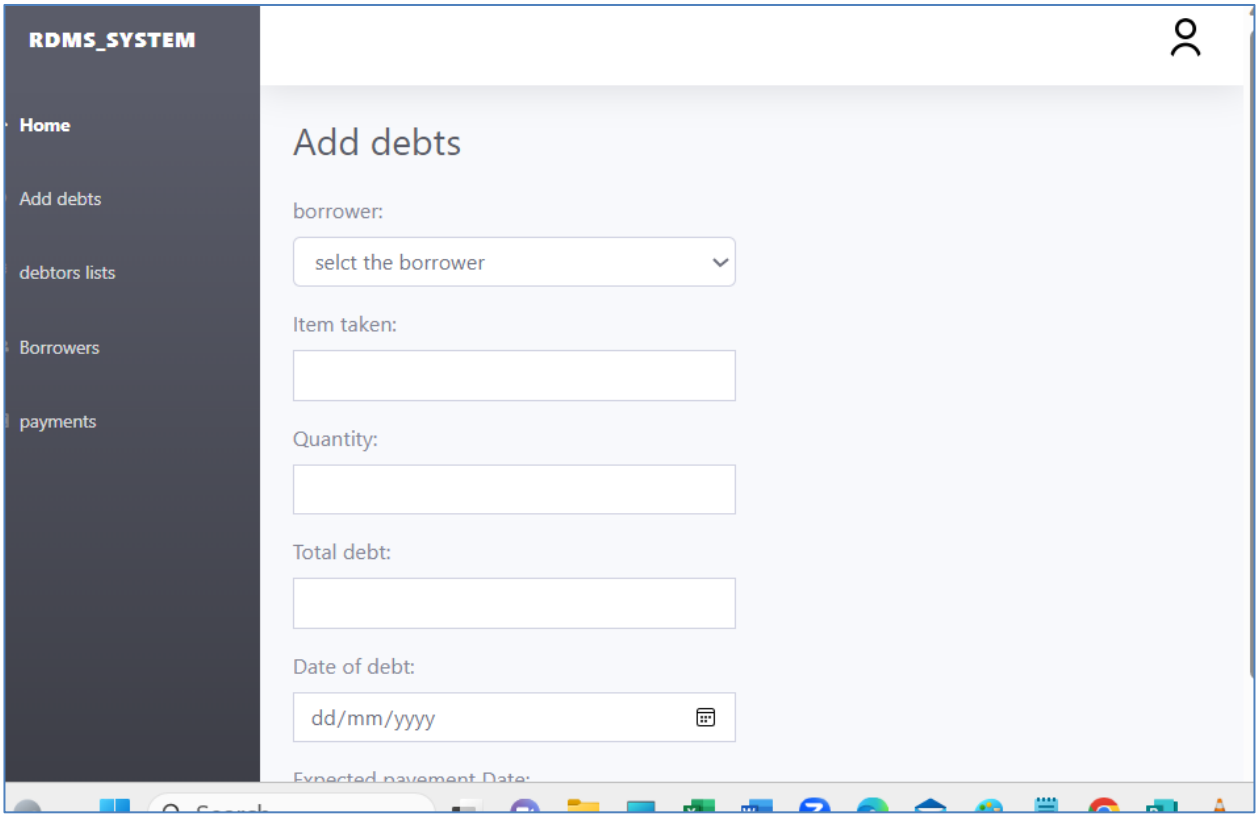

Figure 9. shows how a debtor can be added

The debtors list can be as seen below and the user can be able to tell over stayed debts, normal debts and any action to be taken. This can be seen below

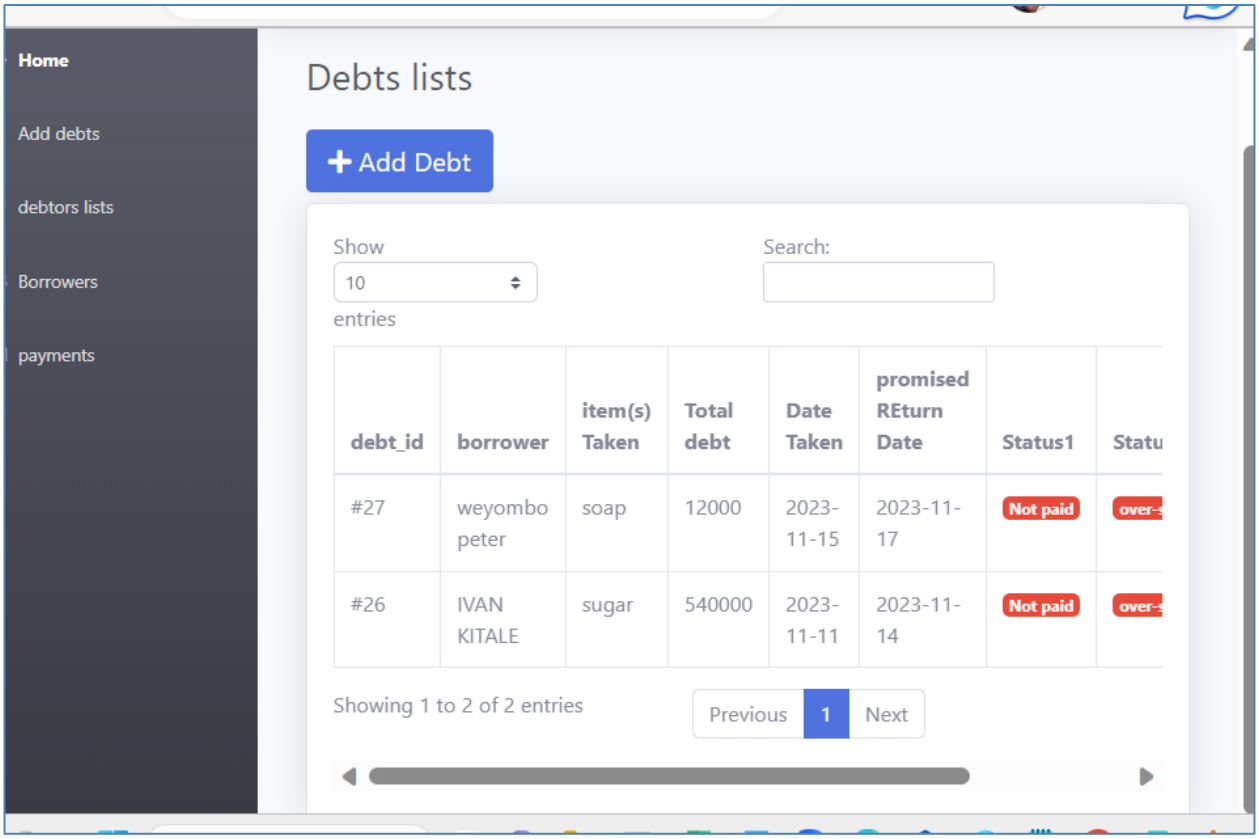

Figure 10. showing a list of debtors

5.3 System testing.

The entire system was tested using codes, class modules and modules. This stage of implementation ensured accuracy and efficiency operation of the system before it was given to the users. It required a series of different tests which varied at different system levels. The system tester assumed that if all parts of the system were correct then the goal would have finally been achieved. Testing is the process of executing the program in order to identify errors or bugs. Testing shows the software errors. Therefore, testing was done after completion of the system. This was done in two formats including Unit testing and Integration testing.

5.3.1 Unit testing.

Unit testing was done on individual codes of the system to ensure that they fully yield the functional units. This was done by examining each unit, for example the code for placing an order. This was done to ensure that the order was delivered as it was ordered without errors. Successfully achieving that encouraged me to go ahead with integration testing after all the identified errors were worked on individually.

5.3.2 Integration testing.

This was done after all the different modules had been put together to make a complete system. Integration aimed at ensuring that all the modules of the system worked hand in hand and that they could be integrated to form a complete working system.

CHAPTER SIX:

6.0 Introduction.

In this chapter, we discuss the findings for developing a Retail Shop Debtor Management Tool in relation to the set objectives and methodology. The study found that the retail shop fully relied on the manual system of managing debtors i.e., noting down the debtors with the use of pen and paper thus implying that the debtor should be honest enough to come back to the shop so as to make payments. The Retail Shop Debtor Management Tool that was developed focuses on replacing the manual system for efficient debtor management process as well as accuracy in data storage. The implementation of the developed tool involved the retail shop employees such as the managers and workers in Opio peters retail shop, and the results which were discussed are shown above.

6.1 Discussion.

The discussion of this chapter is based on the theme of objectives stated in chapter one. Objective (1): To review the literature and establish the requirements for developing a retail shop debtor Management tool. The requirements of the study were got from two sources. These include; Library research and field research. Under Library research, the study was conducted on the previous done projects about the same topic. This guided me on the alignment of my project work. The library research generated requirements that were used in the design of the DFD database design and a few others which led to the fulfilment of functional and non-functional requirements. The field research helped me get to know how the manual system works, the respondents' view and perception towards the retail shop debtor Management tool which also generated the requirements that were used for designing the interfaces. Objective (2): To design a retail shop debtor Management tool. The system was designed depending on the requirements followed by the RAD from the SSADM. The stage of design included Architecture, Context Flow Diagram and Data Flow Diagram, Use-case diagram and database design, which enabled the smooth flow of data. Objective (3): To implement a retail shop debtor Management tool. The implementation of the system design was carried out using the implementation tools which included; Visual Studio code editor, Google Chrome, MySQL, HTML, XAMPP server and windows to fulfil the implementation where I came up with the interfaces in chapter 5, which interfaces include: "login, sign up,

dashboard, home, add debts, debtors list, borrowers, payments. The tool was implemented using parallel implementation to enable users to use the manual system as they got used to the new system. Objective (4): To test a retail shop debtor management tool. The tool was tested during and after implementation. Each component was tested (Unit testing) and the whole system was also tested (system testing). Unit testing was used to test individual parts of the code whereby every part of the interface was as well tested to check whether it works properly. This was essential during the identification of errors in specific units of the code thereby making debugging quite an easy task. Integration testing was done after all the different parts had been put together to make a complete system. Integration aimed at ensuring that all the parts of the system worked hand in hand and that they could be integrated to form a complete working system.

6.2 Conclusion.

The Retail Shop Debtor Management tool should be deployed for use since most of the users agreed that the system performs its functions that suit their needs especially when it came to addressing majority of the challenges that the existing manual ordering system presented as already discussed in this write up in the previous chapters, specifically in problem statement well-stated in chapter 1. This implies that the RSDMT is deemed fit for adoption in Opio Peter's Retail shop, Nagongera town council, Tororo district

6.3 Recommendations.

I recommend that my Retail shop debtor Management tool should be adopted by the different retailers especially those that are still operating manually to minimize the challenges they face due to bad debtors and also errors made on the paperwork involved in debtor management.

6.4 Future work.

The researcher should include support for managing debtor accounts across different stores if the retail shop operates multiple locations. This feature allows centralized management and visibility of debts.

The researcher should try to integrate other Application Programming Interfaces (API's) such as the Google Maps API to enable live tracking of debtors and the Twilio API to enable notification of system users via SMS.

System maintenance should be done through in order to improve on the system performance.

The researcher should try using other programming languages so as to improve on the system.

The system should be hosted on a commercial web-hosting platform in order to enhance its security and improve on its accessibility to the users.

REFERENCES

Allen, sM., Rosenberg, C. B., Keller, C., Setser, B., & Roubini, N. (2002). A balance sheet approach to financial crisis.

Anderson, J. (2021). Credit Assessment and Monitoring in Retail Debt Management. *Journal of Retail Finance, 12*(3), 45-61.

Bernanke, B. S. (2018). The real effects of disrupted credit: Evidence from the global financial crisis. *Brookings Papers on Economic Activity, 2018*(2), 251-342.

Brown, M., & Garcia, S. (2023). Enhancing Retail Debt Management Through Flexible Payment Options. *Retail Management Review, 18*(2), 78-94.

Chernyshev, M., Zeadally, S., & Baig, Z. (2019). Healthcare data breaches: Implications for digital forensic readiness. *Journal of medical systems, 43*, 1-12.

Davis, A. (2022). Effective Strategies for Retail Debt Management. *Journal of Retail Economics, 15*(2), 45-62.

Davis, A. (2023). Improving Debt Recovery through Effective Communication Strategies in Retail Shops. *Journal of Retail Management, 43*(1), 78-94.

Johnson, M. (2023). Challenges and Issues in Debt Management for Retail Shops: A Comparative Analysis. *Retail Finance Review, 29*(2), 112-129.

Jones, R., & Martinez, A. (2022). Effective Communication Strategies for Retail Debt Management. *Journal of Debt Management, 35*(4), 112-128.

Kagan, J. (2020). Financial technology–fintech. *Datum pristupa dokumentu, 13*(6), 2020.

Kirkpatrick, G. (2009). The corporate governance lessons from the financial crisis. *OECD Journal: Financial market trends, 2009*(1), 61-87.

Kisfalvi, V. (2002). The entrepreneur's character, life issues, and strategy making: A field study. *Journal of business venturing, 17*(5), 489-518.

Lee, H. (2023). Leveraging Data Analytics and AI Tools for Retail Debt Management. *Journal of Retail Technology, 25*(1), 15-28.

Lu, X., Lu, T., Wang, C., & Wu, R. (2021). Can social notifications help to mitigate payment delinquency in online peer-to-peer lending? *Production and Operations Management, 30*(8), 2564-2585.

Mogaji, E., Adeola, O., Hinson, R. E., Nguyen, N. P., Nwoba, A. C., & Soetan, T. O. (2021). Marketing bank services to financially vulnerable customers: evidence from an emerging economy. *International Journal of Bank Marketing, 39*(3), 402-428.

Oyerinde, A. A. (2022). *The Role of Credit Management in the Issue of Bad Debt in Nigerian's Commercial Bank.* Dublin, National College of Ireland,

Rodríguez, H., Quarantelli, E. L., Dynes, R. R., & Tierney, K. J. (2007). Businesses and disasters: Vulnerability, impacts, and recovery. *Handbook of disaster research*, 275-296.

Smith, L. (2021). Debt Collection Strategies for Retail Shops: A Comparative Analysis. *Journal of Retail Management, 42*(1), 112-129.

Smith, L. (2022). Assessing the Impact of Credit Policies on Debt Management in Retail Shops. *Journal of Retail Economics, 16*(3), 205-218.

Smith, T. (2022). The Role of Point of Sale Systems in Retail Debt Management. *Journal of Retail Operations, 9*(2), 50-65.

Sugiarto, H., Yanti, J., Cahyani, D., Junaidi, A., & Oktoriza, L. A. (2023). Exploration Financial Performance Optimization Strategies on Business Success: A Literature Review. *SEIKO: Journal of Management & Business, 6*(2), 402-411.

Wadesango, N., Tinarwo, N., Sitcha, L., & Machingambi, S. (2019). The impact of cash flow management on the profitability and sustainability of small to medium sized enterprises. *International Journal of Entrepreneurship, 23*(3), 1-19.

Walker, R. (2022). Overcoming Financial Resource Constraints in Retail Shop Debt Management. *International Journal of Retail Research, 11(1)*(p. 45-62).

Walker, R. (2023). The Role of Automation in Retail Debt Management: A Case Study of Leading Retailers. *International Journal of Retail Technology*, *10*(2), 205-218.

APPENDIX

Appendix 1. Questionnaire form for staff, customers, manager

Topic. Retail shop debtor management tool

Dear sir\ madam

My name is wangusi Emmanuel a student of Busitema university offering a bachelor's degree in science education and carrying out research on retail shop debtor management tool and Opio peters retail shop in Nagongera town council is my case study

I kindly request you to report appropriately to the following questions provided to enable me gather credible data for the above topic

Your responses will be used for academic purposes only and will be treated confidential.

Use the spaces provided to answer the questions that follow.

1 what is your current responsibility at Opio peters retail shop

……

……

……

2 how are debtors at Opio peters retail shop monitored

……

……

……

3whatv are the major challenges faced during debtor monitoring and debt collection.

……

……

……

4 how do you think a retail shop debtor management tool should operate so as to address some of the challenges stated above

……

……

……

Appendix 2. Requirements collection interview guide

Topic. Retail shop debtor management tool

Dear sir\ madam

My name is wangusi Emmanuel a student of Busitema University offering a bachelor's degree in science education and carrying out research on retail shop debtor management tool and Opio peters retail shop in Nagongera town council is my case study

I kindly request you to report appropriately to the following questions provided to enable me gather credible data for the above topic

Your responses will be used for academic purposes only and will be treated confidential.

RETAIL SHOP DEBTOR MANAGEMENT TOOL

INTERVIEW GUIDE

INTERVIEWER……..INERVIEWEE……
…

What do you basically do at Opio peters retail shop……?

For how long have you worked at opio peters retail shop……

What is the average number of debtors you receive per day……?

Do you face some challenges with some of your debtors?……

THANK YOU