

ONLINE COFFEE SHOP MANAGEMENT SYSTEM

(CASE STUDY. NANYANGA COFFEE SHOP IN BUSIA)

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DECLARATION

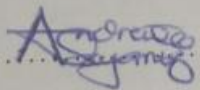
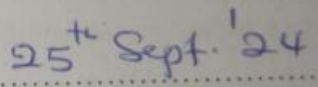
I hereby declare to the best of my knowledge that this project is mine.

Signed.....*DM*.....Date...*24th 10 2024*...

OUNDO MASSY DANIEL

APPROVAL.

This project report has been well supervised and approved by
DR. Andrew Lukyamuzi.

Signed..........Date..........

DEDICATION

I dedicate this project to my family for without your financial, spiritual and moral support I would not have made it this far. I therefore dedicate my research report to my parents Mr. Okumu Godfrey Basilio, Ms. Anyango Judith and all my brothers' sisters Gerald, Kato, Favor, Justin, Shillar. Also, to my darling wife, Ms. Sarah Mutukufu, my child Judith Nabwire for their valuable time and encouragement during the process of this study. May the almighty God bless you abundantly.

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List of abbreviations.

DBMS: Database Management System.

E-R: Entity relationship.

DFD: Data Flow Diagram.

GB: Gigabytes.

RAM: Random Access Memory.

MB: Megabytes.

ADMIN: Administrator

UML; Universe mode language.

MS: Microsoft access.

VB: Vision Basic.

IS: Information System.

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ABSTRACT

An Online coffee management System is a software application developed for managing various coffee shop activities such as booking available coffee on stock, paying online, managing orders, checking available coffee online. In this project, the main object was to develop an online coffee shop management System. This system was developed to address high transport cost on coming to check available coffee in the shop, wasting money on advertisements in newspapers and radio adverts. The method used in the development of the project was spiral modal methodology that ensured systematic and sequential flow of the system stages. The system development tools used were Dataflow Diagram, Context Diagram, Entity Relationship Diagrams and a Flow Chart and the technologies used in implementation of the objectives of this study included MYSQL server database, PHP for server connections, and V.B (Visio basic) as the programming language. The result of the project was an Online coffee shop management System capable of allowing students to view, select and book coffee, allow coffee administrators to register clients and deliver to them the coffee depending on their preferences. The application was finally run on the computer and was verified to be running sufficiently well and produced the expected results.

Chapter 1

1.0 Introduction

Coffee is one of the drinks favored by people. The hobby of drinking coffee causes people to be able to make coffee as a favorite drink or continuously drink coffee because it is considered as reliever of drowsiness and giving stimulus (additional energy) before carrying out strenuous activities during the day (Falkes, 2019). In this chapter, am presenting the study on the concept of online coffee shop system. I will go on to talk about the background of the study, problem statement, objectives of the study, scope of the study and significance of the study.

1.1 Background

Nanyanga coffee shop was started in 2001 by Mr. Okello Basirio who was a coffee farmer in Buhenye Village, Majanji sub- county, Busia district, who later left the shop to his son after his death in 2010. The shop offers coffee products, like hot drinks in the morning and evening hours. The shop serves about 100-200 clients daily, on which the customer records and all daily transaction are recorded manually on the paper and kept in a box file. In the process cashier or the concerned administrators make errors like interchange digits, sometimes data gets lost due to improper security of data. Since computers have become part of life and accessing any kind of information. The life in the 21st century is full of technological advancement and in this technological age it is becoming difficult for Nanyanga shop to cooperate with big companies. The World Wide Web contributes greatly to the creation of an ever-increasing global information database. What I propose is an **online coffee shop** system that allows users to check for various coffee available at the **online** store and purchase **online**. It will be a web-based system whose main language of programming will be Viso basic (V.B). The system will consist of all coffee types displayed in various models. If the user wants a product, he/she may add it to his shopping cart. This is aimed at replacing the current manual system where customers face a lot of challenges in accessing the available coffee on stock and also spends a lot of money and time coming to check and purchase the goods and as well the shop management spends a lot of money on adverts because of the currently expensive and unreliable means used for advertisements such as Radio, TV and Paper adverts.

1.2 Problem Statement

Currently Nanyanga coffee shop uses manual system for carrying out their activities such as sales, record keeping and also expensive and unreliable means of advertising the business such as Radio, TV and paper adverts. As a result, customers face a lot of challenges in accessing the available coffee on store and also spends a lot of money and time coming to check and purchase the goods and as well the shop manager spends a lot of money on adverts. After preliminary investigation, I realized there is a need for an online coffee shop system that allows users to check for various coffee available in store and purchase online. The system will also increase efficiency and flexibility in running most activities of the shop.

1.3 General objective.

The general objective of the study is to develop an online coffee shop system which allows the user to access and purchase the coffee available in the shop online.

1.4 Specific Objectives of the study

- I. To review the literature and determine the requirements for the online coffee shop system.
- II. To design the online coffee shop system.
- III. To implement the system.
- IV. To test and validate the functionality and efficiency of online coffee shop system.

1.5 Significance

1.5.1. To the organization (shop)

- a) The system will enable the staff to main and manage high volume of coffee stock, sales and profit accumulation efficiently.
- b) The system shall reduce on time and effort used to attend to customers' concerning the orders. Paper work will be reduced with the computer-assisted method of storing the records and will also provide efficient means of advertisements.

1.5.2. To the customers

- a) It will help customers to access the available coffee in the shop online hence reduced in time wastage and transport expenses. It will also help customers to make orders and purchase online which will create convenience to them.
- b) The third-year students can also benefit from this study in that this study could act as reference to them in their research. Therefore, the research will be of great importance to both the organization and the customers.

1.6 Scope

The online coffee shop system shall provide a graphical environment in which the users of the system will be able to perform various operations like capturing orders made by the customers.

1.6.1. Content:

The system will allow the customers view various coffee categories on stock. If the user likes a product, he/she may add it to his shopping chart, the system captures orders made by customers, compute the amount they

have to pay, store data in the database and sellers will be able to retrieve it and view the orders placed in order to serve the customers.

1.6.2. Area:

The area of study Nanyanga coffee shop in Busia Town, Eastern Uganda.

1.6.3. Time:

The study will take 4 months from December 2023 to April 2024.

1.6.4. The total budget.

The study will require ninety thousand shillings only (90,000/=) to facilitate me in the transport, and data required to build the system.

Chapter 2

Literature Review

2.1. Introduction

Coffee is considered a reliever of fatigue and drowsiness and provides additional energy before activity (Falkes L. J., 2019). The use of computers in shop management has expanded rapidly over the last 20 years. They have changed both institutional and community practice dramatically. Computers have automated many of the traditional technical functions of shopkeepers enabling them to increase their security activities. The working conditions of many shop owners have changed as a result of computerization. For example, working from home. Computerization has extended beyond the shop management into the remainder of the store. Inventory management, point-of-sale information and virtually any other function within the shop store which lends itself to automation has been computerized.

This chapter presents the critical review of research work from journals, internet sources and other projects already done which is related to the online coffee shop system as well as an analysis of existing literature on the subject with the objective of revealing contributions, weaknesses and gaps. Throughout this chapter, there will be a comprehensive discussion on theoretical and practical views of previous studies done on online coffee shops.

2.2 Theoretical and Practical views of the previous studies

The power of a man's mind is directly proportioned to the quantity of coffee he drinks. – Sir James Mackintosh

Recently, the development and dissemination of smart devices linked to the network are being actively performed, and IOT (internet of things) is issued in the form of mutually co-operative relationships through interoperation within smart devices. (Ahn, 2017). I propose an innovative intelligent coffee shop management system by sharing and cooperatively controlling smart devices and internet devices.

In terms of taste, aroma and protein content, Lonsilar coffee has a distinctive smell and delicious taste (soft), 14.6% protein content and 35.18% carbohydrates, the content of antioxidant compounds to ward off free radicals in the body. With sales in showrooms, there has been an increase in demand for Lonsilar coffee by 2.5% from the total production of 2 tons from 2016. When it was still conventionally processed into 3.5 tons of production a year. (Raden S.B. Suharto, 2019).

Busia is one of the highest exporters of Coffee in Uganda. Considering the large population in the Uganda, Coffee is the third favourite non-alcoholic drink. The coffee shop market recorded an estimated 3.5% increase in sales between 2013 and 2017 to an estimated \$ 0.45 million. Nearly three quarters (73%) of consumers have purchased hot drinks out of home in the three months to September 2017, with Costa Coffee enjoying the highest usage reflecting its widespread store portfolio. As of December 2017, Costa coffee having the highest number of total sells followed by Starbucks and then Cafe Nero. Currently there are various new brands competing with Nanyanga coffee shop. Pretia and sons being one of them currently has over 300 outlets in the Uganda. A persistent challenge for coffee shops is to expand business beyond the morning and early afternoon hours. Out-of-home hot drinks remain on high demand in terms of spending in Busia town.

However, the fact that overall usage of coffee shops has remained consistent between 2013 and 2017, despite the Uganda's slowly improving economy.

The coffee shop management is based on a concept to maintain orders and management of a particular coffee shop. The administrators can handle the data and update information of the coffee. The coffee shop management system is web-based project. The aim of coffee shop management is communication between rural area people and coffee shop management. (Diwale, 2019-2020)

2.3 Conclusion of the literature review

In conclusion, the literature review evaluates a range of sources in identifying current knowledge and key issues with reference to the focus of the research question 'how can a prototype of an online coffee shop system be developed to meet its business requirements?' Although several sources have provided useful information related to developing an online coffee shop system, such as coffee shop service limited, software development methodologies, the study in the development of an online coffee shop system for coffee products is extremely limited. Therefore, research outcomes are able to fulfil a gap in the research domain. In continuation the above literature review contains essential information in justifying appropriate approaches for this research. Large shops need to adopt to online coffee shop system to ease on the services, in order to eliminate weaknesses.

Chapter 3

3.0. Introducing

One approach to solving the issue methodically is through research methodology. It might be viewed as a science that studies scientific research methodology. In it, we examine many approaches that a researcher typically takes to analyze his research topic and the reasoning behind the surroundings. The methods and techniques that will be employed in this investigation are presented in this chapter.

Section 3.1 research design.

Section 3.2 covers the study region;

Section 3.3 deals with the study population and sampling;

Section 3.4 deals with data collecting;

Section 3.5 addresses validity and reliability issues and deals with data analysis and presentation.

Section 3.6: Ethical considerations

3.1 Design of Research

WEB-based management system development is carried out with several stages, namely designing Context Diagrams, Designing Data Flow Diagrams, Designing Entity Relationship Diagrams (ERD) and designing data dictionaries that will be utilized in making information systems.

Therefore, I will use a case study to narrow my emphasis on Nanyanga coffee Shop and obtain a comprehensive analysis of the subject from a specific perspective.

The research case involves creating an online prototype at Nanyanga coffee shop.

The creation of an online prototype at Nanyanga coffee store serves as the research case. The case study approach is useful for answering descriptive questions like "what" or "how," in addition to being used for assessment research. In terms of offering comprehensive and in-depth explanations of the behavioral issues, it performs better than a quantitative approach. (kemanusiaan, 2007).

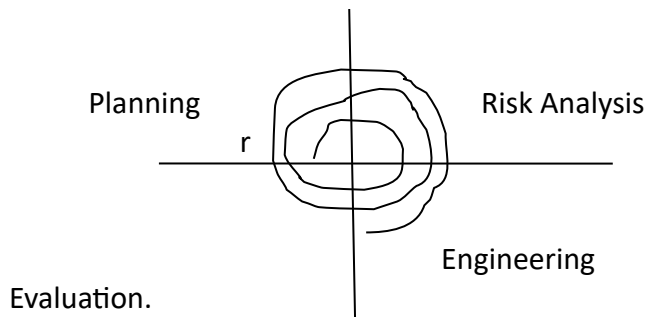
3.1.1. Spiral model.

- Spiral model is a combination of an iterative nature of prototyping and systematic aspects of traditional water full model.
 - The spiral model has four phases: Planning, Risk, Engineering and Evaluation.
 - This model is best used for large project.
 - This model the same activities are the repeated for all the spirals till the entire software is build.
1. Planning phase-
 - Requirements are gathered during the planning phase.
 - Requirements like business requirement specification and system requirement specification.
 2. Risk Analysis: -

- Risk analysis include identifying, estimate and monitoring the technical feasibility and management risk.
3. Engineering phase: -
- Actual development and testing the software take place in this phase.
4. Evaluation phase: -
- Customers evaluate the software and provide their feedback.

Diagram of Spiral Model:

Figure 1



How this Model use in my project: -

- Development is fast.
- Software requires significant changes.
- Risk analysis is proper.
- User see the system early.

3.2. Study region.

The study will be carried out in the Nanyanga coffee shop in Busia, which is situated in the eastern part of Uganda. Busia town was chosen for a number of reasons, including the fact that it is close to the researcher's home, that the area is appropriate for the study, Busia town is one of the busiest commercial hubs in Uganda due to the fact that it is on the boarder and draws a lot of tourists due to its strategic location at the Lake Victoria, and that a large number of people use mobile phones there. Therefore, it is anticipated that Busia would host the majority of ICT innovations and mobile development centers in the future.

3.3. Study population.

This is merely a predetermined population from which a sample can be taken, and then the study can be carried out. An individual, a group, or an organization can make up a population. Data from 30 respondents—including employees, clients, and management of Nanyanga coffee shop—will be gathered for the study. Taking into account triangulated factors and the study perimeters.

SN	Respondents	Population
----	-------------	------------

1	Staff	8
2	Customers	20
3	Management	2
TOTAL		30

Table 1 showing the population to be studied.

3.3.2 Unites of analysis

The primary unit of analysis in this case is the individual customers who use the Nanyanga coffee shop products. Since I have to gather data from these customers, the respondents must provide the data needed for analysis. The unit of analysis consists of about 20 coffee customers of Nanyanga shop as well as the management and sellers.

3.3.3 Sample selection.

A sample is a subset of the population, and sampling is the act of selecting a sufficient number of participants from the population to enable the study's generalizations (Sekaran, 20000). It is quite evident from a time, money, and human resource standpoint that a study should use a sample rather than look at the full population.

3.3.3.1 Purposive sampling, or non-probability sampling

For this study, judgmental sampling will be utilized in conjunction with non-probability sampling to choose the sample. According to (CYIZA, 2015), self-selection sampling, also known as judgmental sampling, happens when you let each case—typically an individual—indicate if they would like to participate in the study. As a result, you should: Make the public aware of your need for cases, either by requesting people to participate or by advertising in the relevant media; then, gather information from those who do. The researcher will choose the sample based on the criteria by seeking for respondents among coffee store customers who may offer pertinent and useful information for the study.

3.3.3.2 Sample Quantity

Customers, employees, and management of coffee stores will make up the study's sample size. In the first category which is the main target of the study 08 sample members are sellers, 20 shop patrons who are directly involved in coffee shop products usage are identified and will be interviewed, and 02 sample members are management personnel. Shop patrons, vendors, and management are selected as the primary sources of data for the study in accordance with its objectives.

SN	Category	Sampling	Population	Sample Size
----	----------	----------	------------	-------------

		technique	Frequency	
1	Staff	Purposive sampling	08	08
2	Customers	convenience sampling	20	20
3	Management		02	02
TOTAL			30	30

Table 2 showing sampling quantity.

3.4. Data Gathering

Following the definition of the research problem and the creation of the study strategy and plan, the task of data gathering is initiated. Primary and secondary data are two categories of information that the researcher should consider while choosing the data gathering strategy for the study.

3.4.2. Data Types and Sources

There are two categories of data that are also data sources. These comprise both primary and secondary data.

3.4.2.1. Vital Information

In academic discourse, "primary data" pertains to information gathered directly by the researcher. This is data that has never been collected previously, either at a specific time or in a certain manner. The above staff members will be interviewed in order to obtain the primary data:

3.4.2.2. Supplementary Information

Secondary data refers to information that is already available, having previously been gathered and examined by another party. When using secondary data, the researcher must investigate multiple sources to gather the data (CYIZA, online loan management system, 2015). Publicly available or unpublished secondary data are both acceptable. A significant portion of study sources, including books, journals, reports, and other academic publications, should employ the documentary tool of the secondary data collection approach. When available, manuals and online resources, including websites and search engines with capabilities like Google Scholar, should be used as secondary data to support the study.

Three Ways to Collect Data

This case study will take into account qualitative methodologies in order to help the researcher gain a deeper comprehension of the issue. As a result, the sampling strategy was purposeful because there aren't many respondents and the study requires the sample to provide direct responses. The methods of data collection that will be employed include direct observation and interviews. Direct observation is a simple activity that can give insight into users and their duties, while interviews would allow for direct interaction between the interviewer and the interviewee.

3.5 Issues with Validity and Reliability

"Any research can be affected by different kinds of factors while, extraneous to the concerns of the research, can invalidate the findings". When a study has more than thirty responders, it might be considered valid. According (al, 2000)

3.5.2 Methods of Data Analysis

During the data analysis process, the data must be examined using a careful approach (following the majority). The information will be communicated verbally and displayed in a descriptive manner. It is a useful method that aids analysts in cutting down on time and bias effects (CYIZA, loan management system, 2015).

To sum up, gathering information from firsthand observation in their own environments

In conclusion, direct observation of data in their natural environments is a useful method for understanding business processes and requirements. It is also a useful method for gathering feedback on the prototype to improve requirements and make it more user-friendly while qualitative group interviews capture participant comments and reveal user perceptions.

3.6 Moral implications

This research has certain ethical concerns that need to be addressed. A researcher doing direct observation at a chosen coffee store must have official permission to watch operations and may not reveal any business information without consent, such as revenue and the number of clients

The investigator needs to be in order to do research competently, the researcher must be aware of and abide by all applicable laws as well as institutional and governmental rules (legality). The researcher must possess a high degree of integrity, which entails acting sincerely and making an effort to think and act consistently. A high degree of secrecy should be maintained to safeguard private communications, including articles or grants submitted for publication, employee records, and other data pertaining to the shop's shortcomings. Prudence: the investigator must exercise caution when documenting research endeavors, including data gathering, study planning, and communication with organizations or publications. Report data, findings, processes and procedures, and publication status truthfully. Objectivity: make an effort to prevent prejudice in the planning of experiments, data analysis, interpretation, peer review, and hiring decisions. When conducting research in areas where objectivity is demanded or expected, such as grant writing, expert testimony, peer review, data analysis, interpretation, and experimental design, aim to avoid bias. Honoring patents, copyrights, and other types of intellectual property is a sign of respect for intellectual property. Additionally, before submission, all data must be examined by the owner of the coffee store and any relevant parties. Lastly, throughout the interview process, the researcher has to inform participants of the study's goals and ask for their consent to record audio or video (Chadio, 2005).

Chapter 4

SYSTEM DESIGN.

4.0. Introduction

System design is the process of defining the architecture, components, modules, interfaces, and data for a system to satisfy specified requirements. It includes both high-level and detailed design of system components. This chapter presents the results from the field and system design. System design refers to the outer look of the real system. OR. The architecture representation of the real system.

This chapter has the following sections.

Section 4.2 Background information/ current system.

Section 4.3 Strength of the current system.

Section 4.4 Weakness of the current system.

Section 4.5 System requirements

Section 4.5.1 Functional requirements.

Section 4.5.2 Non-functional requirements.

Section 4.6 System design.

Section 4.6.1 System architecture.

Section 4.6.3 Context diagram.

Section 4.6.4 Data flow diagram. (DFD).

Section 4.6.5 Use case diagram (UML universe model language)

Section 4.6.6 ERD

4.1. Background information/ current system.

The current system at Nanyanga coffee shop is mainly manual system managed by one secretary and the information is collected for him by the sale persons and arrange them into the file. This system started in around 2010 when the shop started enlarging its sales and profits. at that time some customers who used to purchase large quantity came demanding their records and order lists, this made the shop management to such for a secretary in the names of Omondi James who stored the records and orders in the box files. Due to the increasing demand and sales of the business, the management had to look for a diploma fellow to act as a secretary. That is how Mr. Denis Okello the current secretary was got in around 2018 as a new secretary. Denis was arranging each commodity in its own file for easy access of the information in case of a need.

For example, taking Ipoh coffee as a commodity

One page in the file

Table 3 showing the sample of how records were captured

Date	Customers' name	Commodity purchased	Commodity ordered	Amount paid in cash	Balance
12/12/2023	Okumu. G.	Ipoh coffee	\$ 2.2

4.2. Strength of the current system.

- It is convenient to nearby customers and more acceptable by most of all illiterate people who may not know how to use the current technology.
- There is team work among the workers since they are all engaged in selling products.
- Customers' information is free from hackers who may access the information online.
- There is physical negotiation between customers and the sellers which sometimes gives a chance to seller to charge higher prices hence increasing revenue of the shop.

4.3. Weakness of the current system.

- Limited hours of working since the shop is opened at 8:00am in the morning and closed at 6:00pm in the evening. This sometimes blocks some potential customers outside.
- Costly since customers who wants to check available new stock has to transport themselves to the shop to see before ordering.
- Customer information can easily get lost since they are kept by the secretary by paperwork and kept in files.
- Mainly use inconvenient means of adverting i.e. Radios, TVs, sign posts to which all customers may not be in position to understand the language or access information.
- There has been a high cost by the business through advertisements on Radio, TVs.
- Challenge in managing customers' order.
- Inadequate labor.
- Workers are loaded with work which causes delay in service such as carrying the products out in the morning and entering them inside in the evening.

4.4. System requirements.

System requirements refer to the hardware and software components that are necessary for a computer system or software program to function properly.

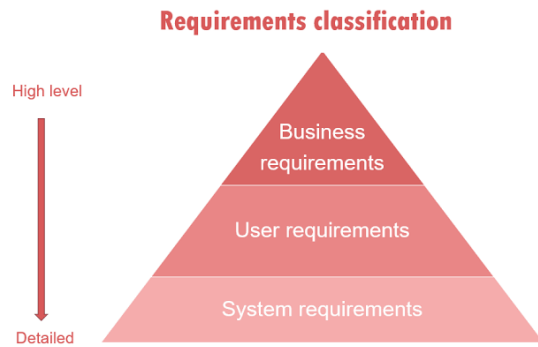


Figure 2

4.5. Functional requirements.

- User login and access control - allowing employees to login with different roles and permissions.
- Menu management - enabling the addition, modification, and deletion of menu items.
- Order processing - facilitating the creation, modification, and tracking of customer orders.

4.5.1. Non-functional requirements.

- Performance - the system should be fast and responsive to handle peak customer demand.
- Security - sensitive data is encrypted and access is restricted to authorized users.
- Scalability - the system is able to handle an increasing number of users and transactions.
- Reliability - the system is dependable and minimizes downtime to ensure smooth operations.
- Usability - the system is user-friendly and intuitive for employees to use effectively

THE FRAME WORK OF THE SYSTEM.

The users here include.

- Administrators of the system who can log in and modify the information of goods.
- Staff who are responsible for processing sales.

The system will include;

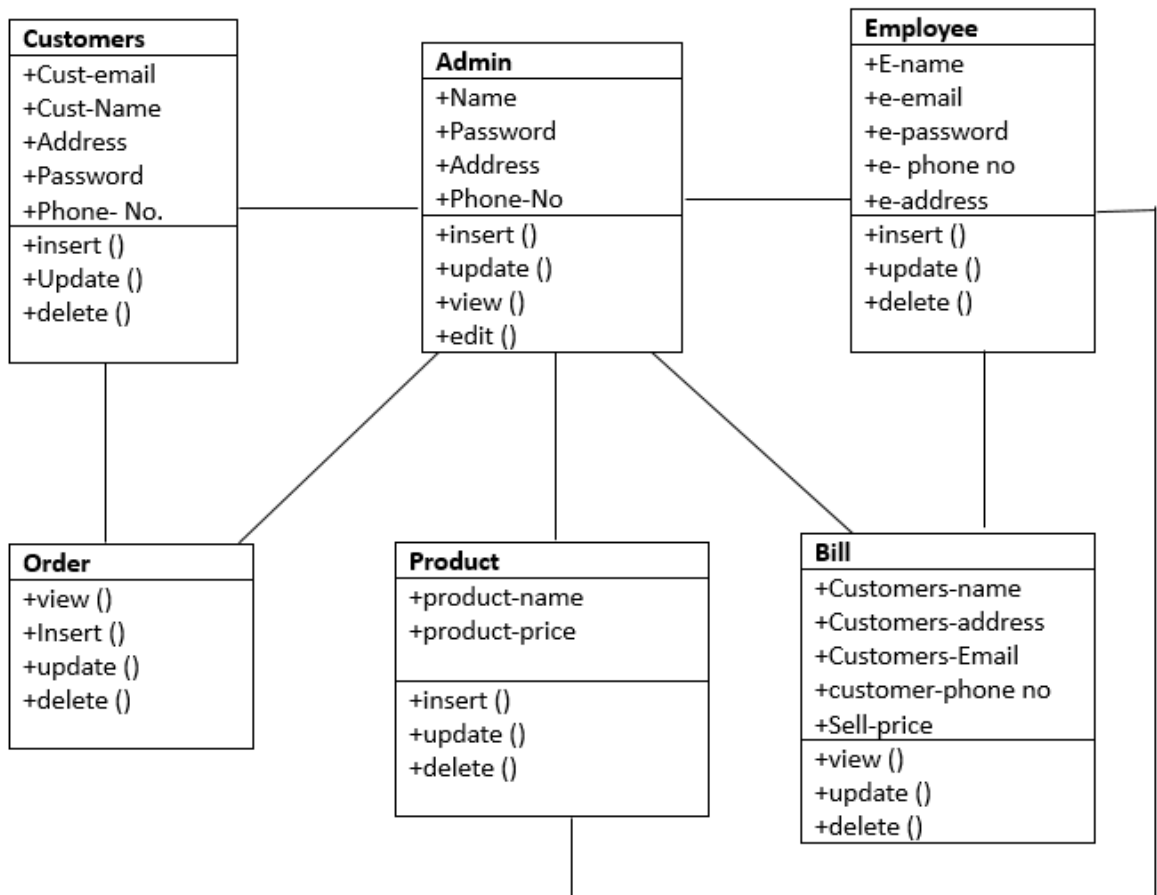
- A user-friendly interface.
- A database to store all the information.

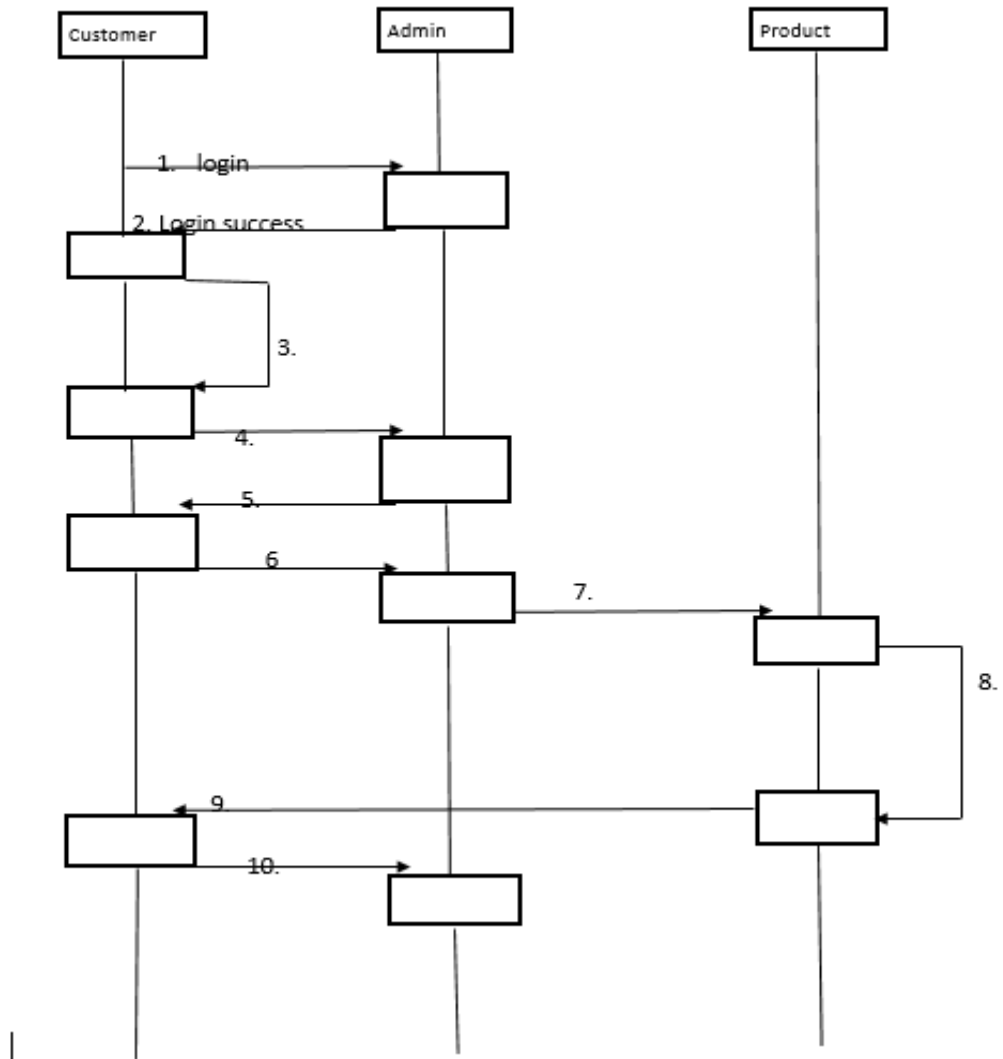
The user will interact with the system through an interface by giving inputs. The inputs will then be processed with the system, giving the information needed by on the inputs given. The system also stores processed information from the user in the database.

4.6. System Architecture.

4.6.1. Data flow diagram (DFD).

4.6.1.1 For available

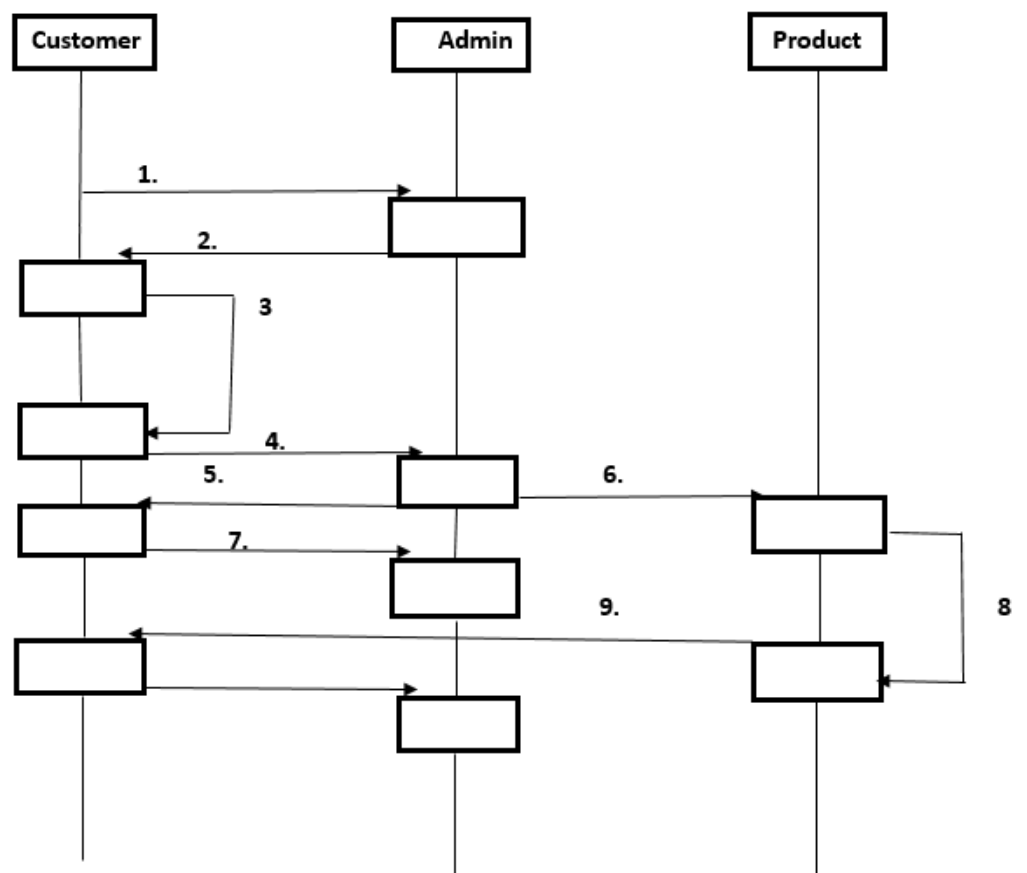


**KEY**

1. Login success

2. New login
3. Registration
4. Registration successful
5. Order the product
6. Check product availability
7. If available
8. Take a product
9. Pay bill

4.6.1.2. *Not available*



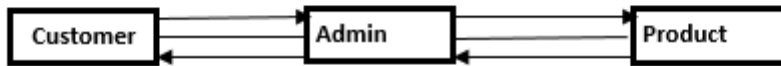
KEY

1. Login
2. Login success
3. New login
4. Registration

- 5. Registration successful
- 6. Order the product
- 7. Check product availability
- 8. If not available
- 9. layout

4.6.2. Context diagram.

4.6.2.1. Level 0

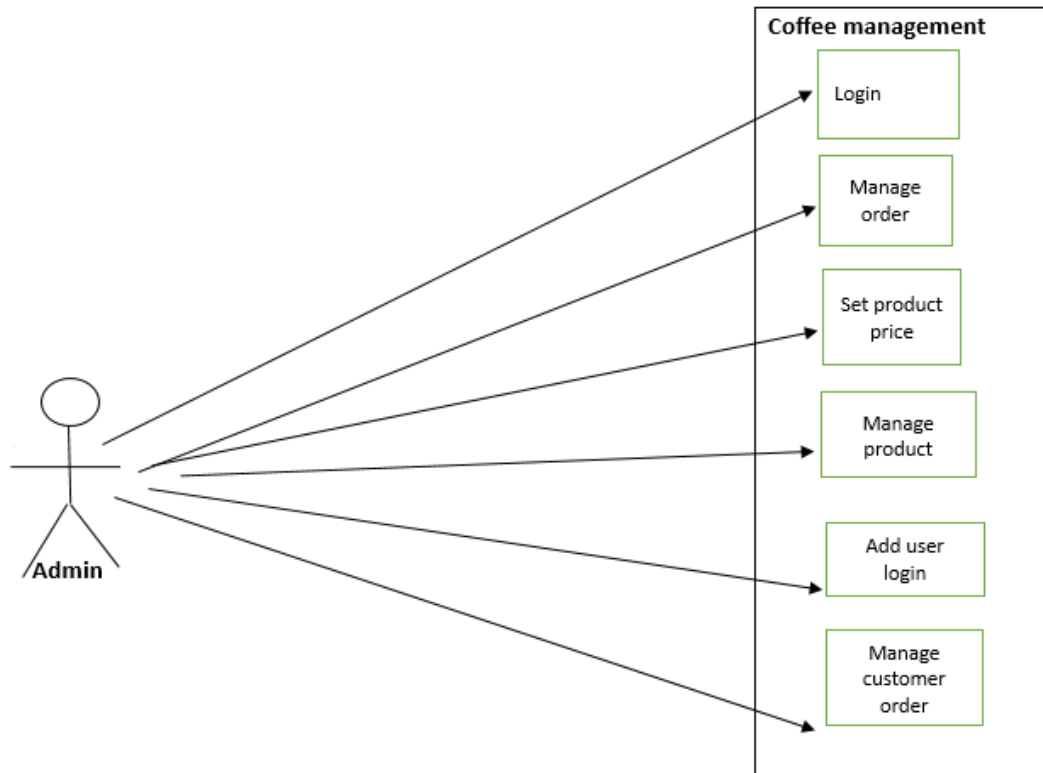


4.6.2.2. Level 1

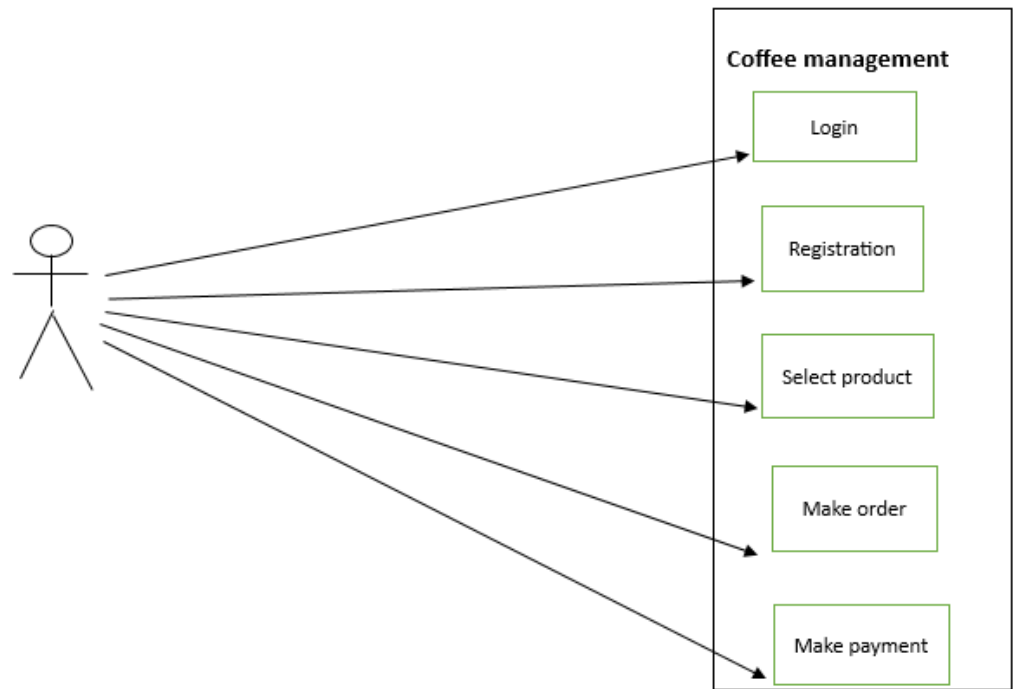


4.6.3. Use case diagram (UML, Universe mode language).

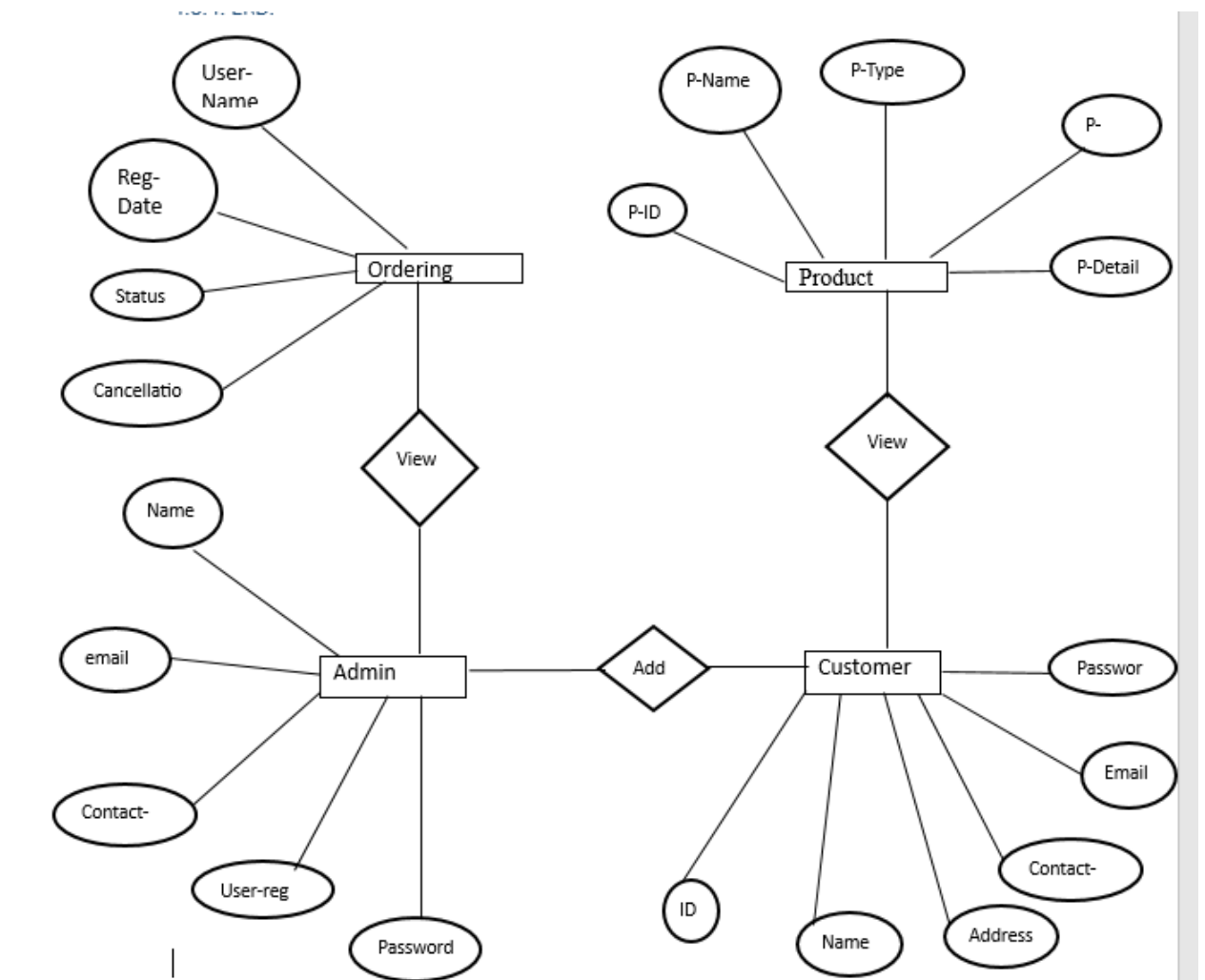
4.6.3.1. Use case diagram for admin:



4.6.3.2. Use case diagram



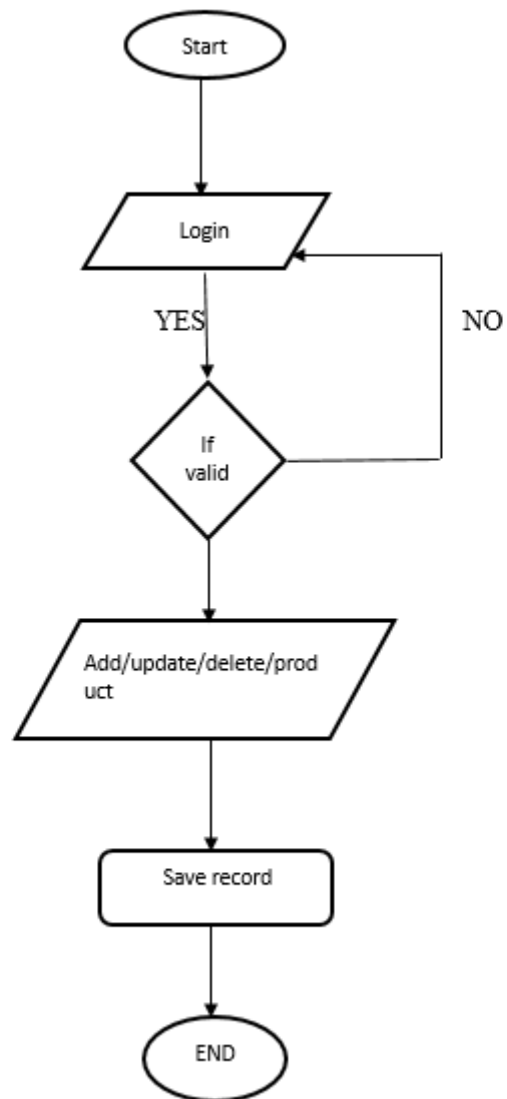
4.6.4. ERD.



4.6.5. System Flow Chart.

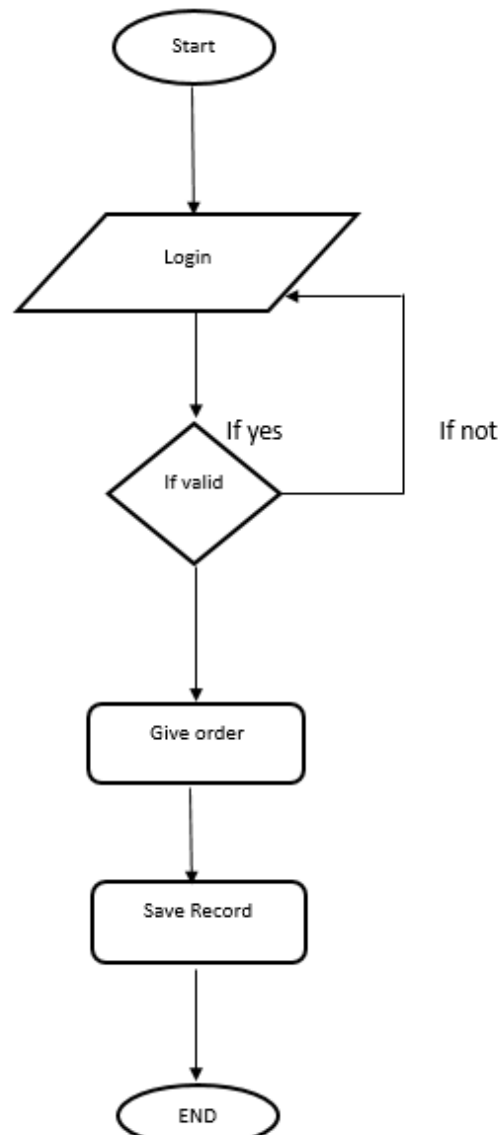
4.6.5.1. Admin

4.6.5.1. Admin



4.6.5.2. User flowchart.

4.6.5.4 User flowchart.



System implementation

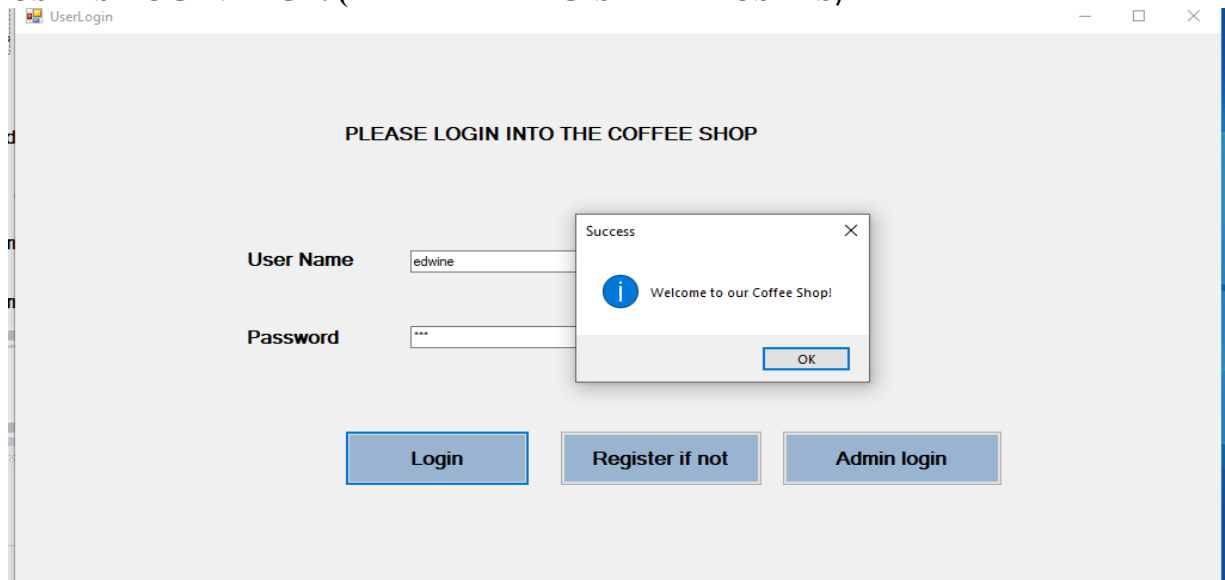
5.1 introduction

This chapter presents the implementation output on how the system flows as the way the use case table is presented in chapter four

5.2 security

The system provides login and registration pages to clients such that no unauthorized person can access into the system. The users have a different login page with the system administrators, the new users have to register into the system before accessing the shop. This helps the system administrators to know the number people using the coffee shop products, the location of their customers, manage customers' orders, manage sells etc.

USERS LOGIN PAGE. (ALREADY REGISTERED USERS)



The users are able to login into the system with the registered user name and password, if the user enters an unknown user name or password, he/she will not be allowed to access the system or online shop

FIRST TIME USERS

The first-time users should register into the system before logging in into the system, this prevents unauthorized access into the system.

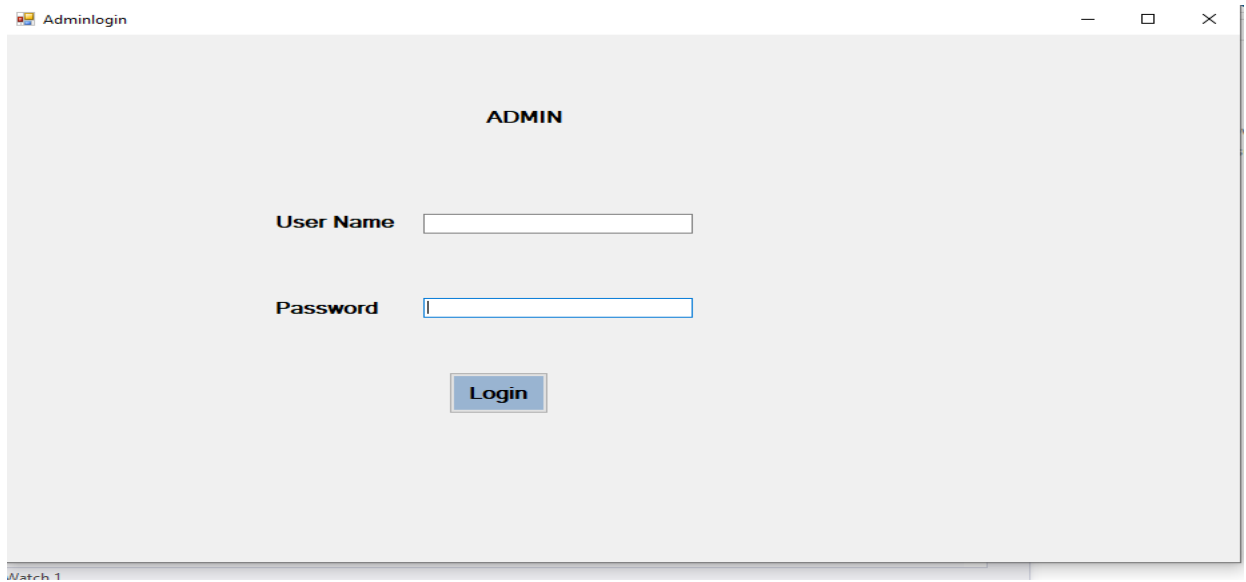
The screenshot shows a web browser window titled "Registerform" with a registration form. The form fields are: Full Name (ouma edwine), User Name (edwine), Gender (Male selected), Address (busia), Email (oumaedwine@gmail.com), password (masked with ***), and Corfirm Passworld (masked with ***). A "Success" dialog box is overlaid on the form, displaying a blue information icon and the text "New user inserted successfully." with an "OK" button. At the bottom of the form are three buttons: "Register now" (highlighted in blue), "Already registered" (disabled), and "Edit the registered user" (disabled).

The user provides full name, user name gender, address, email, password and confirm registration before being registered into the system. The email should be of the form oundomassydaniel@gmail. Com, if a user registers as @oundomassydaniel.gmail.com, the system will not accept registration

This screenshot shows the same registration form as above, but with an "Error" dialog box overlaid. The dialog box contains a red "X" icon and the message "Please enter a valid email address ending with '@gmail.com'." with an "OK" button. The "Email" field in the background now contains "@oumaed". The "Register now" button is still highlighted in blue, while "Already registered" and "Edit the registered user" remain disabled.

ADMIN LOGIN PAGE.

The administrators can also login into the system. The login page for admin s different from that of the users, the admin can login with his/her user-name and password.



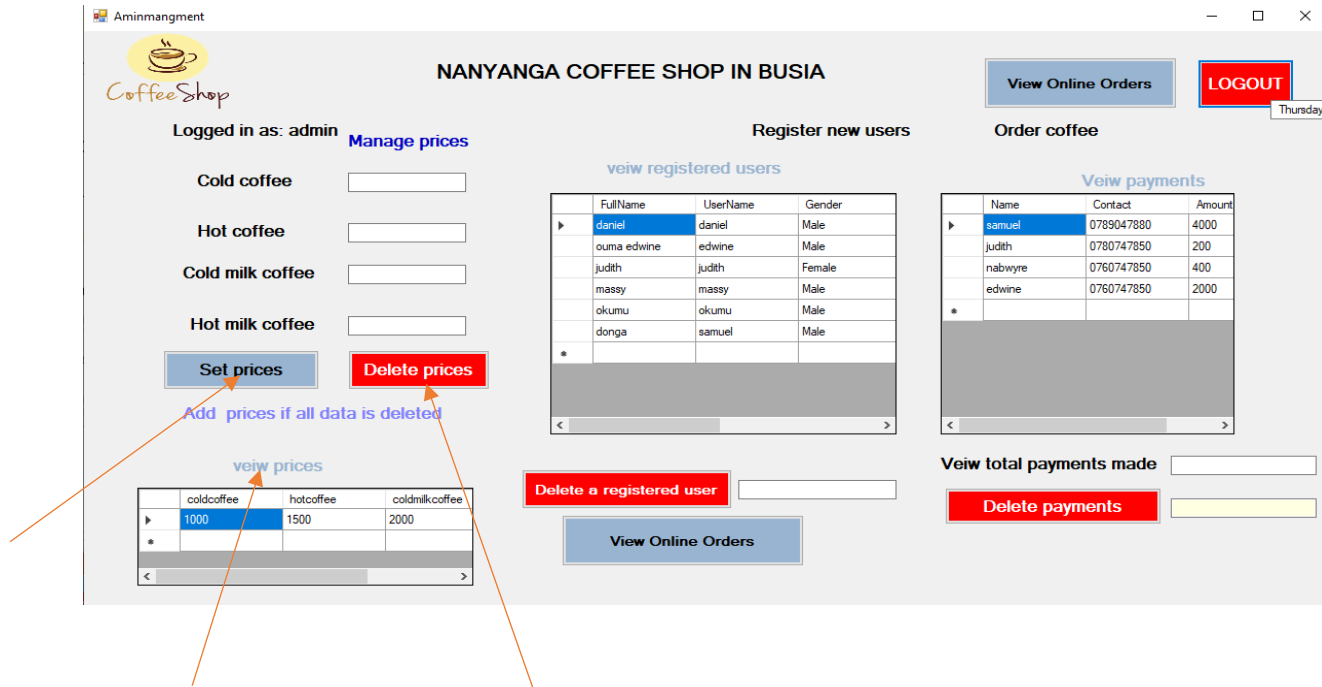
5.3 HOW IT WORKS.

ADMIN.

prices

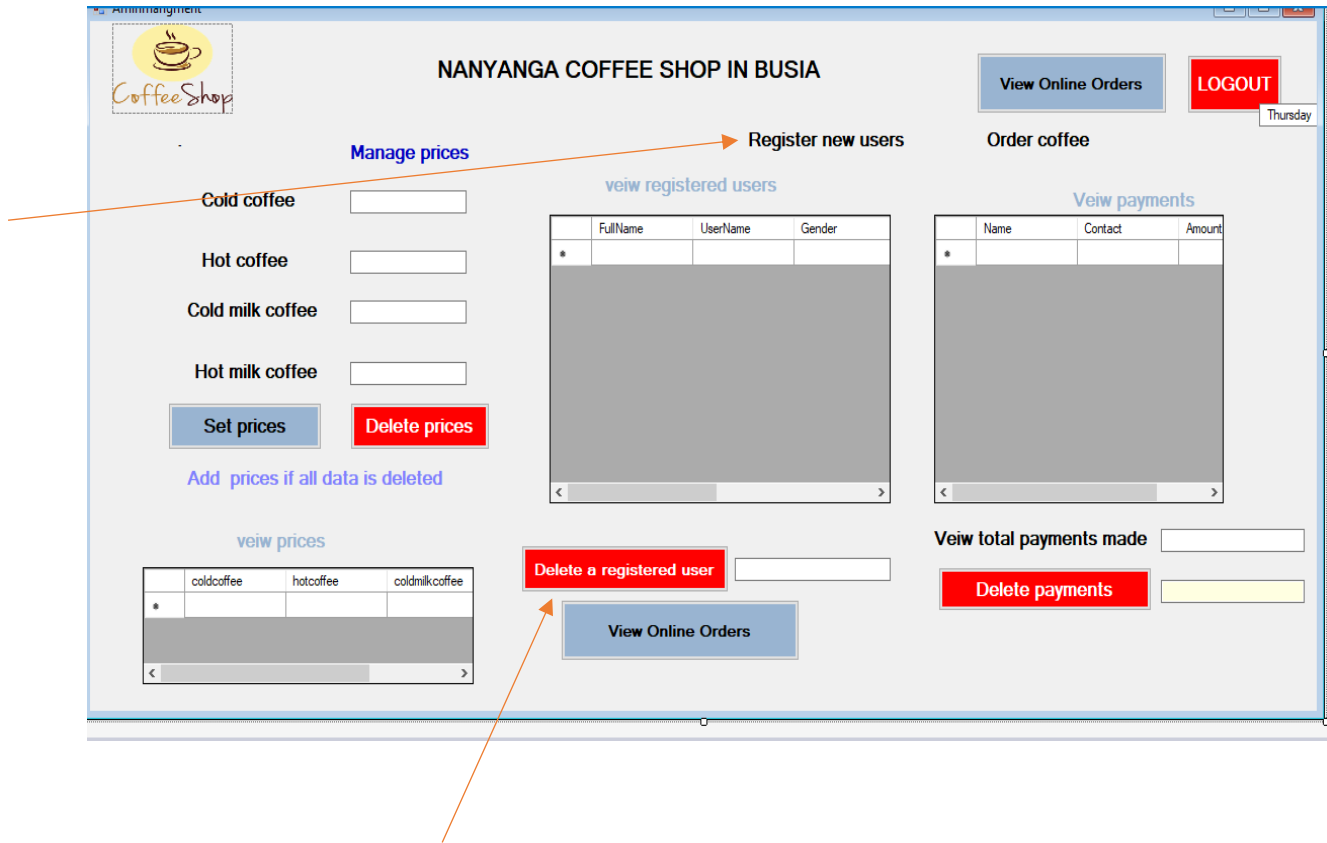
The admin is able to reset new prices of the commodities, view prices and delete the old prices.

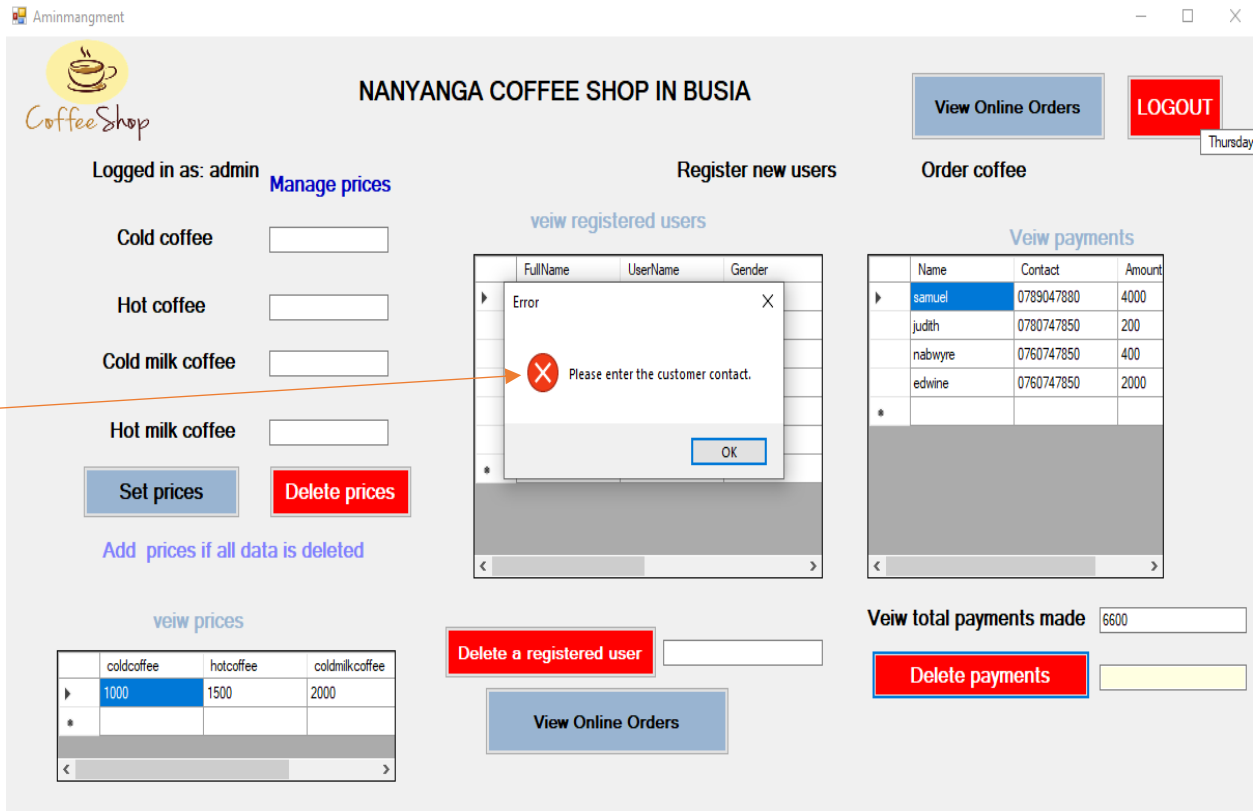
This enables the admin to manage sells.



Registration.

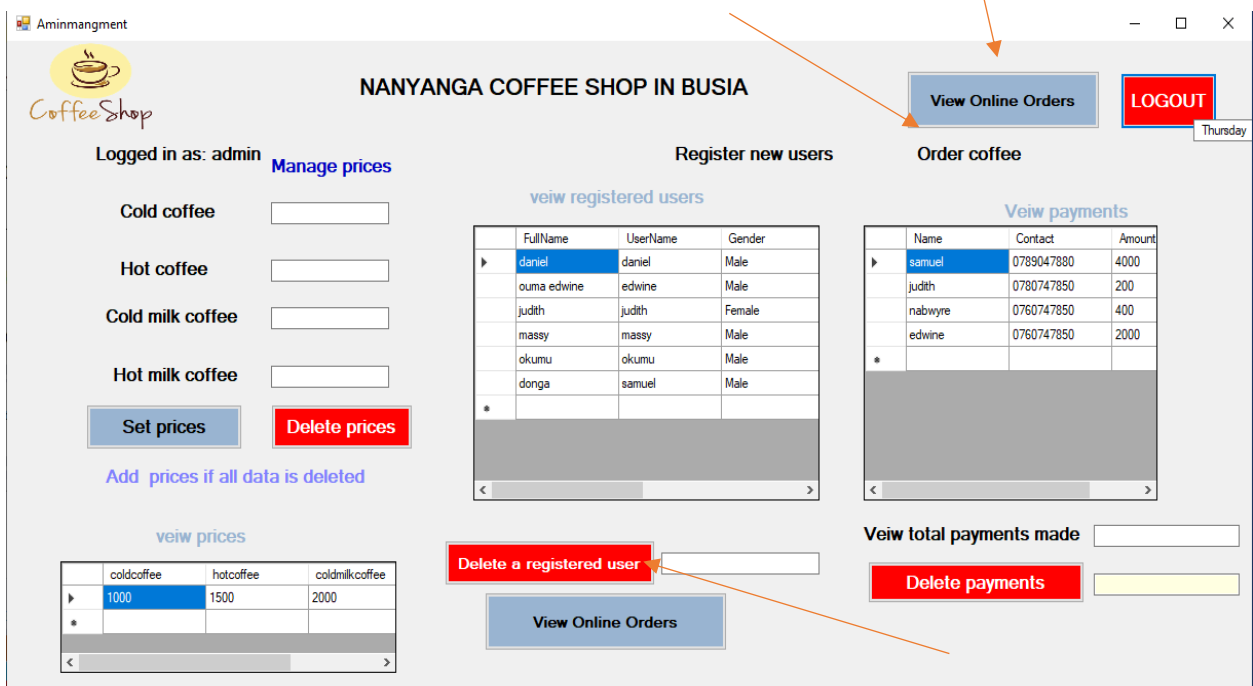
The administrators are able to view registered users, delete registered users and registered users. For the administrators to delete the registered user, he/she should know the users registered telephone number

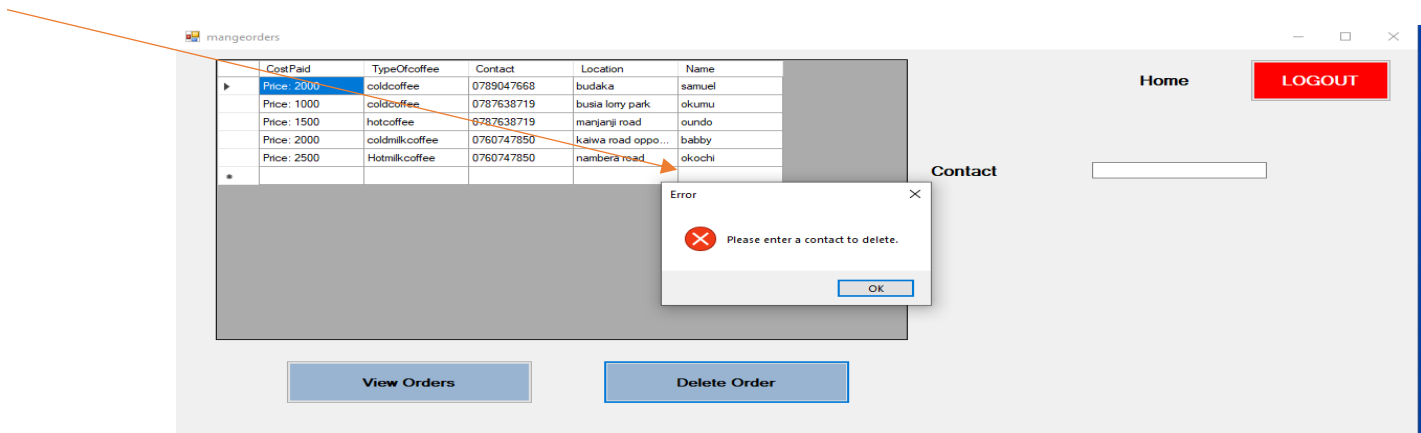
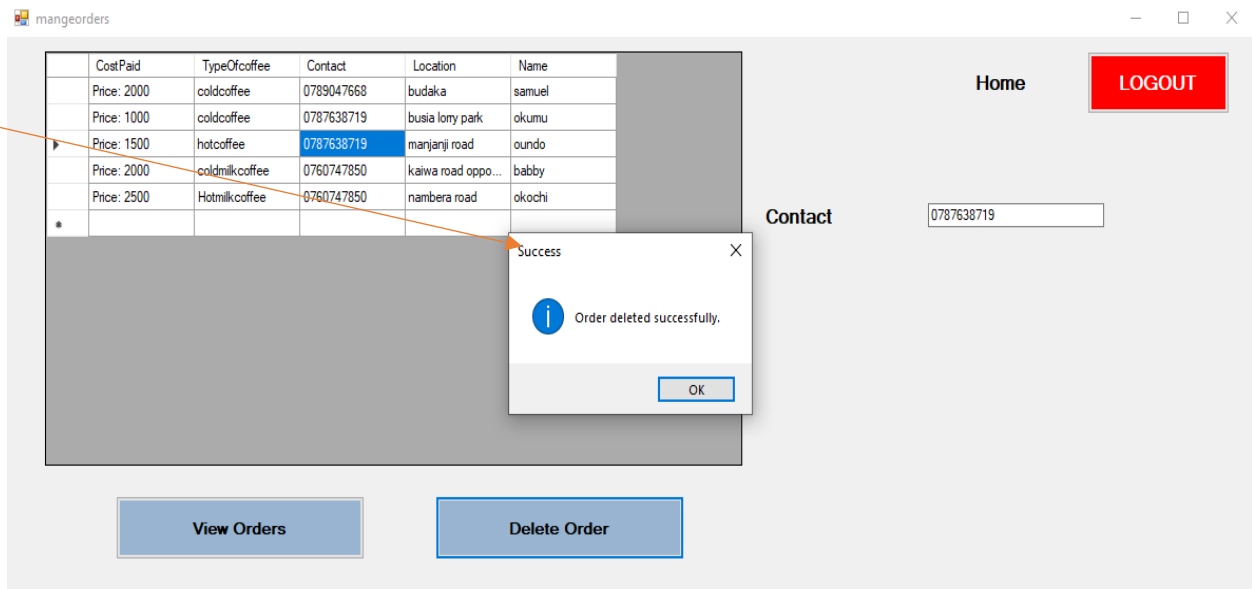
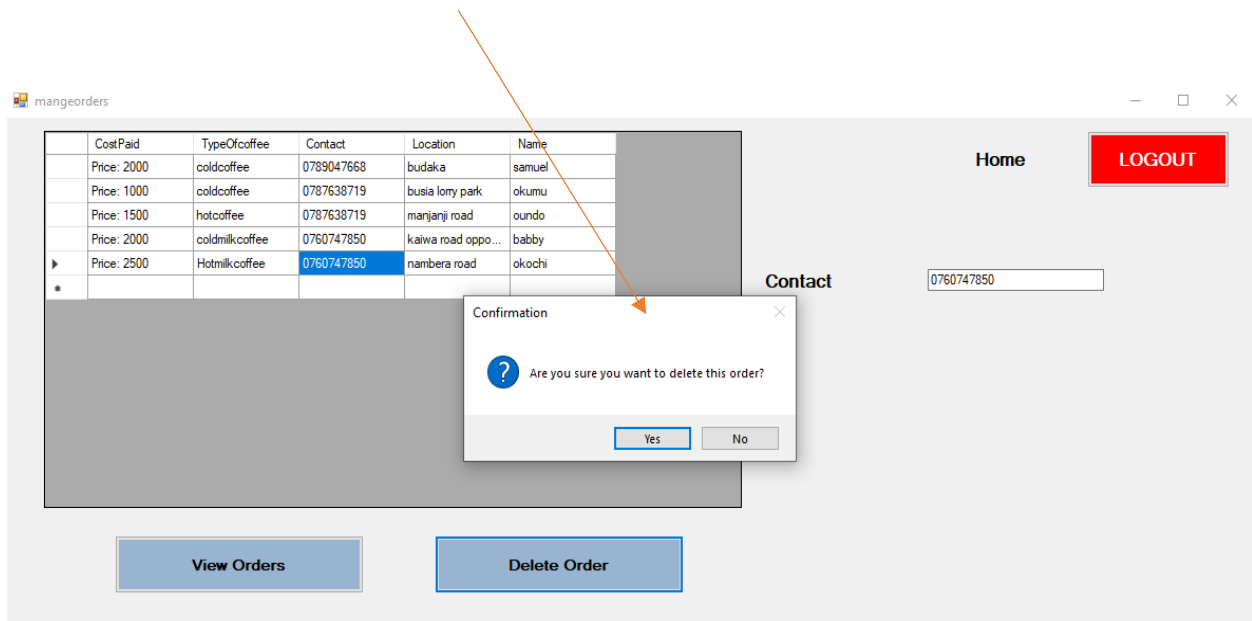




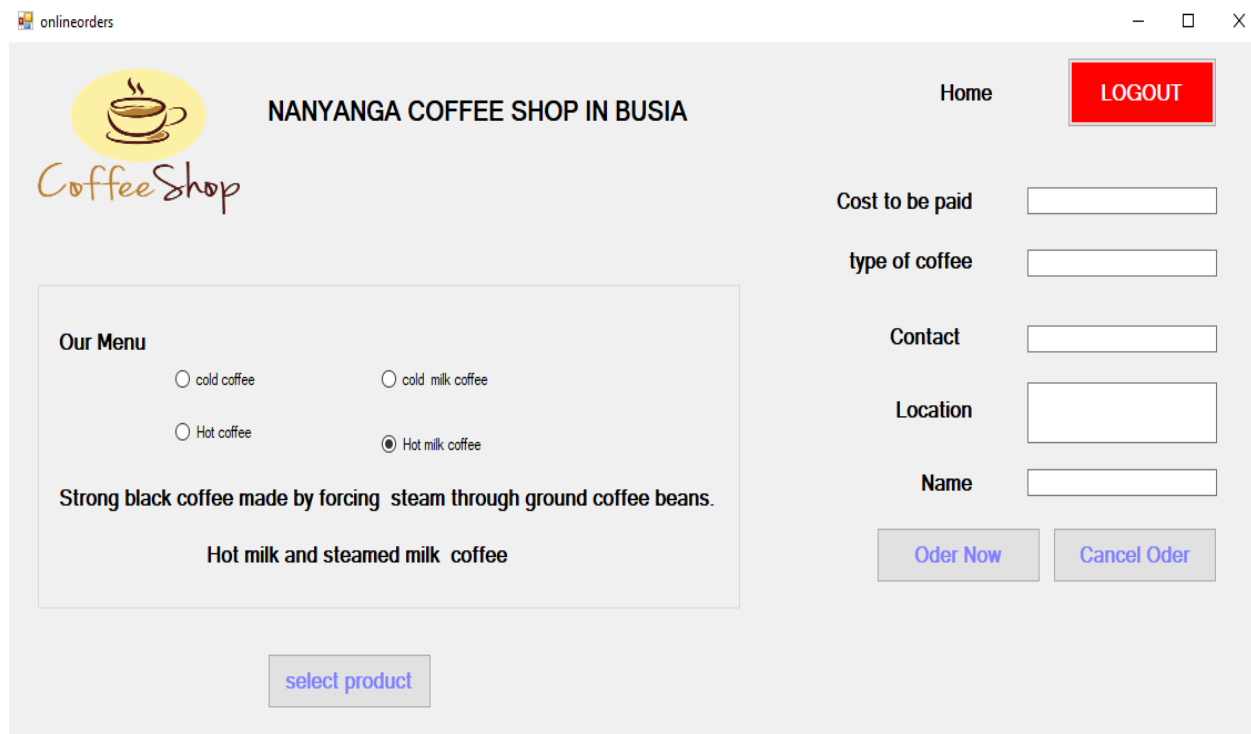
Orders.

The administrator is able to order product on his own, order for other people, and view all customer orders and delete orders. The orders are made both online and offline. Online orders require the users to provide information like cost to be paid, type of coffee, location, name, and contact





Online orders



The screenshot shows a web browser window titled "onlineorders" with standard window controls. The main content area is for "NANYANGA COFFEE SHOP IN BUSIA". It features a logo of a coffee cup and the text "Coffee Shop". A "Home" link and a red "LOGOUT" button are in the top right. The "Our Menu" section includes radio buttons for "cold coffee", "cold milk coffee", "Hot coffee", and "Hot milk coffee" (which is selected). Below the menu is a description: "Strong black coffee made by forcing steam through ground coffee beans." and a sub-section for "Hot milk and steamed milk coffee". A "select product" button is at the bottom. On the right, there are input fields for "Cost to be paid", "type of coffee", "Contact", "Location", and "Name", along with "Order Now" and "Cancel Oder" buttons.

onlineorders

Home **LOGOUT**

Cost to be paid

type of coffee

Contact

Location

Name

Our Menu

cold coffee cold milk coffee

Hot coffee Hot milk coffee

Strong black coffee made by forcing steam through ground coffee beans.

Hot milk and steamed milk coffee

Manage sells.

The admin is able to view total payments made by customers, calculate the total payments automatically, and delete payments of the customers. The admin is also able to make payment for self and other customers and print out the receipts of the paid products

Aminmangement

NANYANGA COFFEE SHOP IN BUSIA

View Online Orders **LOGOUT** Thursday

Logged in as: admin **Manage prices** Register new users Order coffee

veiw registered users

Success
Payments for 0760747850 deleted successfully.
OK

veiw payments

Name	Contact	Amount
samuel	0789047880	4000
judith	0780747850	200
nabwyre	0760747850	400
edwine	0760747850	2000

veiw prices

coldcoffee	hotcoffee	coldmilkcoffee
1000	1500	2000

Set prices Delete prices
Add prices if all data is deleted

Delete a registered user

View Online Orders

Veiw total payments made 6600

Delete payments

paymentsform

NANYANGA COFFEE SHOP IN BUSIA home **LOGOUT**

Name

Contact

Amount Paid

Pay now

NANYANGA COFFEE SHOP IN BUSIA

Name: edwine
Contact: 0760747850
Amount Paid: 2000

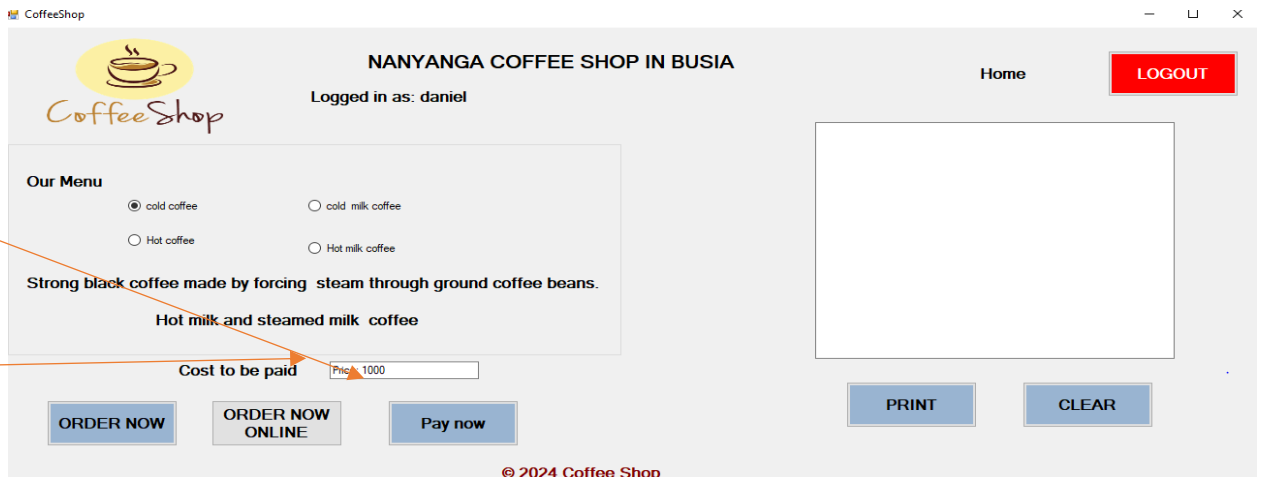
Payment details for edwine made successfully.
Thank you for using NANYANGA COFFEE SHOP system.

Print Clear

USERS/ CUSTOMERS

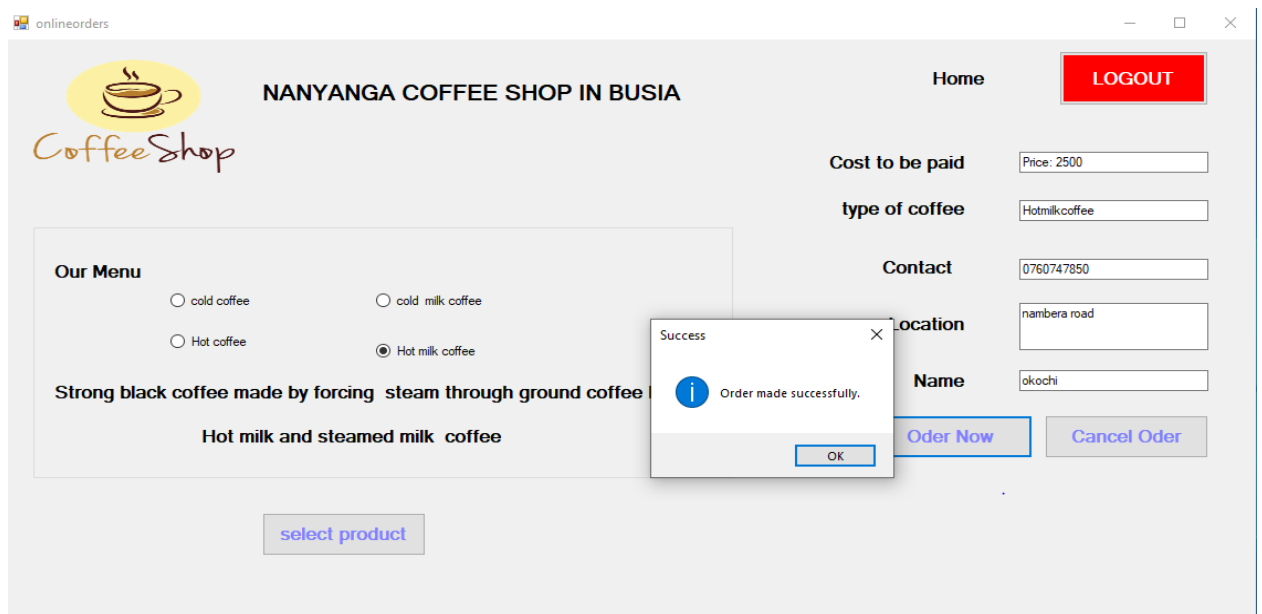
Orders.

The customers are able to make orders both online and offline. The system is able to calculate automatically the customer`s amount of money to be paid for the selected product.



Online orders.

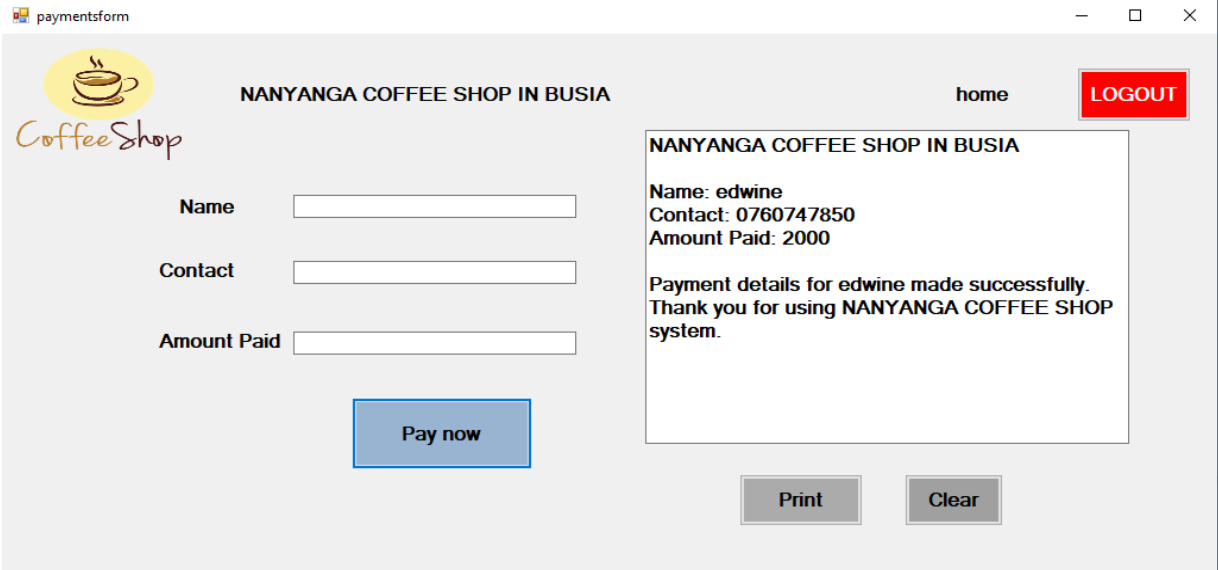
For online orders, the system calculates automatically the cost to be paid and type of coffee then the customer inserts his contact, location, and name. This helps the administration to be able to deliver the product to the customer. When inserting the telephone number, it should be of the form 07*****, the telephone number should also be ten (10) digits for the system to accept it. This is made to avoid wrong telephone numbers.



Purchase online (make payments).

The online coffee shop enables the customers to make payments online and offline. In offline payments customers are able to print out the receipt after making orders, this receipt is carried to the management payments and they're after the customer is given the product straight away. The customers are also able to purchase online. In online payments the system is able to automatically calculate the price of the selected commodity

This reduces on the time spent by the shop waiters in serving customers.



The screenshot displays a web browser window titled "paymentsform" with standard window controls. The application header includes a logo for "Coffee Shop" (a coffee cup in a yellow circle), the text "NANYANGA COFFEE SHOP IN BUSIA", a "home" link, and a red "LOGOUT" button. The main content area features a payment form with three input fields: "Name", "Contact", and "Amount Paid". A blue "Pay now" button is positioned below these fields. To the right, a white box displays a success message: "NANYANGA COFFEE SHOP IN BUSIA", "Name: edwine", "Contact: 0760747850", "Amount Paid: 2000", and "Payment details for edwine made successfully. Thank you for using NANYANGA COFFEE SHOP system." Below this message are "Print" and "Clear" buttons.

CHAPTER SIX

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

6.0 Introduction.

In this chapter, the researcher looks at the summary of the findings, conclusions, and recommendations of the study on designing loan coffee shop management system software

6.1 Discussion.

According to what was gathered in the data analysis, the total number (15) of respondents agreed that the current coffee shop management system that is used at Nanyanga coffee shop was only manual. The researcher found out that there were problems in accessing available coffee and in the process the customers face a lot of challenges in accessing the available coffee on store and also spends a lot of money and time coming to check and purchase the goods and as well the shop manager spends a lot of money on adverts. One respondent indicated that they have a habit of creating another file for clients whenever they fail to locate a file in time which is sign of record management deterioration hence leading to duplication of the customer records. The system was designed basing on the provided facts which included information obtained from questionnaires, interviews and what the researcher observed. The designed system is a computer-based system that completely removes paper work i.e. all the customer record keeping is done by a computer. In the designing of the system, data flow diagrams and entity relation diagrams became very relevant and helpful. They clearly helped the researcher to make a clear plan on which the construction of the system started. Microsoft visual basic 2005.net was used to make very good graphical user interfaces while Microsoft access became very instrumental in developing the database. Testing of the system was aimed at checking for errors existing in the system or capability of a program or system and determining that it meets its required results. Unit testing methodology was done using sample data collected from selected users and the system met the required specification

6.2 Recommendation.

Researcher recommends that, whoever picks interest in working on any related projects should have a clear understanding of the problem, develop a clear understanding of fact-finding tools like questionnaires, interviews, observation, documentation analysis and many other. He/she needs to know which tool is appropriate given the available circumstances for example. Interviews could be used if and only if the researcher has enough time, when qualitative

information is required, and when the number of respondents is not very large. Questionnaires could be used in situation where the respondents are geographically scattered and when the sample size is very large in cases where problems of language barrier exist. However, this will yield good results when it is used along with other data collection methods. Researcher recommend that the system development life cycle be used as the main development methodology. Because it is easier to follow than other methodologies such as Prototyping, Joint Application Design (JAD), Rapid Application Development (RAD) which required special tools. 42 In addition those other methodologies like prototyping require using of special tools which can be expensive or even hard to use. Whenever a project is to taken up, a well detailed schedule is needed to guide the researcher throughout the study.

6.3 Future work/ limitations

- Power failures at times led to loss of data that would cause delays on the time schedules.
- Time was limited and the researcher had to work overtime to meet his objectives.
- Inadequate finance for meeting costs such as, printing, Internet surfing, and purchasing of storage devices like flash disks.
- Computer viruses at one time destroyed the computer which led to loss of the work.
- Fixing appointments with the management and the users of the system was a big problem since most of the time they were not available to give the required information or they were very busy.

6.4 Conclusion.

In conclusion therefore, the study was successful despite the limitations and challenges that were encountered during the study especially lack of enough funds to facilitate requirements needed to develop the system. On the other hand, the researcher acquired skills in project management and development and at least the researcher can make claims of having minimal experience on designing database systems and gained few tips of being project designer and developer

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Appendices

Appendix A: The requisition letter to conduct research;

Nanyanga coffee shop,
Busia town,
Busia, Uganda

To the manager.

Nanyanga coffee shop
Busia

Dear Sir/Madam,

My name is Oundo Massy Daniel and I'm studying at Busitema University. I am, at present, doing a proposal on developing a software prototype for an online coffee shop system based on an android tablet. I am looking for a business where I could perform a case study for my project and would be grateful if you could let me use your shop for that purpose.

The case study would be conducted between December 2023 and February 2024 and I would like to determine requirements and receive feedback from the furniture shop manager and other staff. After the prototype has been developed and trailed for use, I would like to be able to interview around three of your shop's customer groups with regards to their perceptions on accessing the available and making orders using online coffee shop system.

I trust u will grant me the opportunity and you would be amenable to me using your coffee shop for this purpose. Should you have any question or require further information about the project please don't hesitate to contact either myself, or the University.

Yours faithfully,

.....

Oundo Massy Daniel'

Appendix C: Estimated Budget

NO	ITEM	COST
1	Secretarial services	5000
2	Transport	50000
3	Communication & internet charges	15000
4	Consultation	10000
5	Software	10000
TOTAL		90000

Appendix D: Open ended Interview questions

Self-introduction

Asking for permission to carry out the study

Questions**a) To Manager(s)**

- 1) How many are you in the managing committee of the coffee shop?

According to the manager there are 3 in the managing i.e. him as the chief manager, assistant manager and the secretary.

- 2) How many workers/sellers are workers in shop?

There are 20 sellers/worker in the shop as said by the manager.

- 3) When did the shop start and its brief progress?

He said it started in 2000 as simple coffee shop and progressed slowly up to today.

- 4) At what time do you normally open and close your coffee shop every day?

He said they normally shop at 8:00Am and close at 6:00Pm.

- 5) How are you running the activities of the coffee shop?

He said the activities are mainly carried out by the workers/sellers especially serving the customers and their major work as managers is to closely supervise the activities done by the workers and the secretary records every detail of activities.

- 6) What is the minimum and maximum number of customers do you receive to buy furniture in a day?

He said they sometimes receive less than 100 customers in a day especially during free days and during festive seasons they sometimes receive maximum of 1000 customers in a day.

- 7) Do you receive customers who just come to check the available coffee in the store and then ask for the prices?

He said yes.

- 8) Tell me, how are you keeping your records of the shops especially records of the coffee, orders and sales?

He said the records are kept by the secretary by paperwork and kept in files.

- 9) How are you managing customers' preference and orders?

According to him, they put all the samples of the available categories of coffee out for customers to see. If a customer likes any, the seller and customer negotiate for the price. In case what the customer wants is not available they agree a day to ensure that it is available and the customer's order is fulfilled.

- 10) What means of advertisements do you mainly use in advertising your shop to customers in case new varieties of coffee have been put in stock?

He said they mainly use paper adverts (banners), sign posts and partially Radio and TV adverts.

- 11) If through radio or TV or paper adverts, have they been reliable to the customers and cost effective to you as the managers?

He said No and complained of the high cost.

- 12) How are you managing your competitors having the same business?

He said they normally ensure that their prices are slightly lower than their competitors and the adverts they make to attract customers.

- 13) What are the major challenges do you face in the process of managing the business at moment?

He said a lot of challenges but major ones are as listed below;

- Fluctuation of prices because of the competitors

- Inefficiency means of record keeping
- Improper means of advertising the business
- Challenge in managing customers' orders
- Inadequate labor.

14) What possible solution should we jointly as manager and I as a student to improve the efficiency of the shop and to attract more customers at low cost?

He said he tried all other possible means like making adverts but still and ask me if could thought of any idea.

15) The idea I proposed could help is come up with an online coffee shop system. Do you agree with me?

He said yes.

16) a) Have you ever received some researchers presenting the same idea?

He said No

b) If not, am I allowed to fully carried out my research study here in your shop as you feed me with the most essential information to include in the system?

He said yes and warmly welcomed me to the shop.

c) If yes,

- i) what have they so far done,
- ii) How long have been in conducting their study in the shop,
- iii) In which area have they been interested?

Thanks

b) To the sellers

1) How long have you been here as a seller of the coffee?

One of sellers called Edwine said he stayed in shop for 5 years with his colleagues since the shop started in 2000.

2) How are you carrying out selling process to the customers of the coffee shop?

They said carry out the activities as a team and serve customers' needs with the agreed charges set by top managers.

- 3) What are the major things been experiencing as you carry out the selling?

They said they experienced many things but mainly the fluctuating prices of the products.

- 4) How are you managing the orders made by the customers?

They said they often serve the available products ordered by the customers and make agreements to ensure that the customers' orders that are not available are put in place to fulfill their needs.

- 5) What do you normally use to keep the sales records?

They said they normally report information about sales to secretary to record.

- 6) Are there no conflicts between you and the manager as a result of mistrust?

They said yes, they arise mainly due fluctuations in prices.

- 7) How have you been solving them?

They said through brief meeting to discuss issues concerning the changes.

- 8) Aren't you loaded with work that causes delays in services provision?

They said yes, they real loaded with work such as carrying the products out in the morning to taking them back in the evening and getting tired hence customers are many.

- 9) What other challenges do you face as sellers of the coffee?

They said they face challenges in fulfilling customers' needs in time making them to sometimes have conflicts with the customers.

- 10) What could be the best solution to address the challenges facing you as sellers and to improve efficiency in service provision?

They said they tried their level best to think of an appropriate but they failed so they allowed me room suggest an idea.

- 11) What if an online coffee shop system is developed, won't it help to solve the problems?

They said yes and highly embraced the idea.

Thanks

c) To the customers

1. How many times have you bought coffee in Nanyanga coffee shop?

Majority of the customers said they been buying products for several because they know it.

2. How fair is the coffee shop to you in terms of service provision.

They said it is good because they charge fair prices compared to others.

3. Are the adverts made by the coffee shop reliable for you?

They said not at all many complained of not getting information about the new varieties available in store.

4. How much often do you spend on transport just to come and check the available coffee on stock? Isn't expensive?

They said they really spend a lot of money on transport and becomes so expensive.

5. How are making orders in the current system?

They said since the system is manual, they come and order for the things they want if available they are served immediately and if not available, they agree on a day.

6. Are your orders and preferences been granted or accepted?

They said yes to a larger extend but sometimes rejected and delays are common.

7. Is the current system convenient for you?

They said the system is not convenient at all.

8. Is coffee shop always open for you in the current system?

They said No because it opens late and closes early.

9. How did you know that Nanyanga coffee shop exist?

Most customers said they got know the shop through their movement to Busia town because most of them are stay around.

10. What other challenges are facing during purchasing coffee.

They said also normally face a lot of challenges with the fluctuating prices without their notice.

11. Is it a good idea to develop an online furniture shop system that allows the customers access the various coffee and make purchases online?

Most customers seconded the idea and gave me good go ahead and others who don't understand how the system can operate have doubts in their decisions.